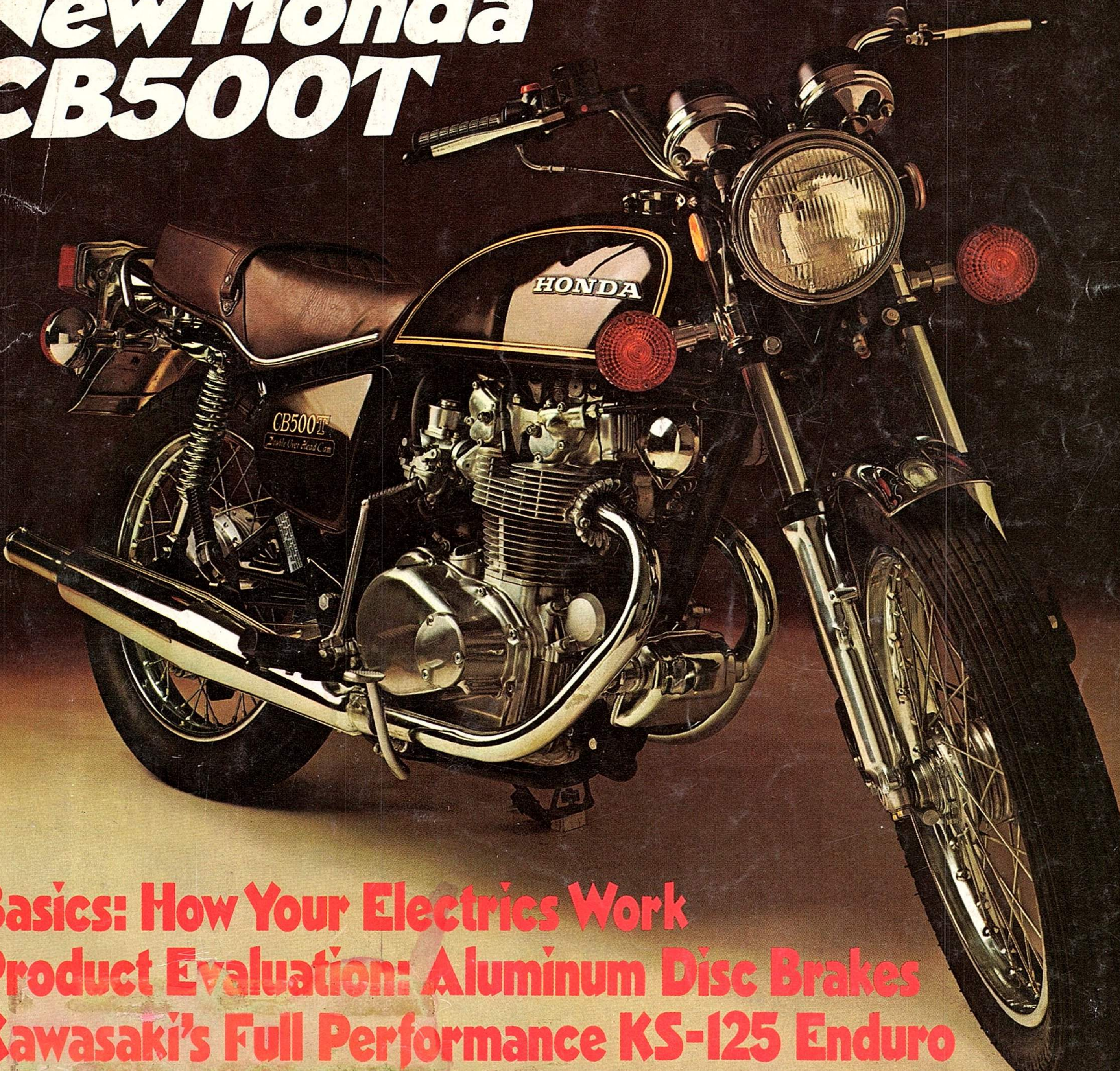
®
Cycle

FEBRUARY 1975/**75 CENTS**

Exclusive: New Honda CB500T



Basics: How Your Electrics Work

Product Evaluation: Aluminum Disc Brakes

Kawasaki's Full Performance KS-125 Enduro

Retailers: Notice of display-allowance plan is within last three pages.

Gas it.

High speed cornering is a critical test of a motorcycle's handling. The Norton 850 Commando corners better than any other production superbike. Why?

Norton is the lightest weight superbike built anywhere: 460 pounds, dry.

Norton's race-bred frame combines lightness and strength without sacrificing maximum torsional rigidity.

Norton's narrow, vertical twin-cylinder engine design lets it sit low in the frame. Result: a super-low center of gravity.

All these guided by Norton's dead-accurate steering geometry, add up to "on tracks" cornering that must be felt to be believed.

The Ultimate Ride

New for 1975—effortless electric starting, no-fade rear disc brake, conveniently positioned handlebar switches, short-throw left foot shift, hinged, lockable, extra-padded seat.

Norton
Commando 850 with vibration-free Isolastic ride

Norton Triumph

Exclusive U.S. Importers and Distributors
West of Mississippi River: Norton Triumph Corporation, 2765 E. Huntington Dr., Duarte, Calif. 91010 Phone (213) 359-3221
East of Mississippi River: Berliner Motor Corporation, Railroad St. and Plant Rd., Hasbrouck Heights, N.J. 07604 Phone (201) 288-9696
Member Motorcycle Industry Council

CIRCLE NO. 21 ON READER SERVICE PAGE.

Cycle

February 1975 Volume XXVI No. 2

p. 47

p. 20

p. 39

Road Tests

20 Kawasaki KS-125 Enduro
All just fine until the squeak
47 Honda CB-500T
All dressed up—and going no-place

Features

39 Erv Kanemoto Is . . .
A lot of things, all of them nice. By Gordon Jennings
42 Hunt's Metal-Sprayed Aluminum Discs
Everything they promise to be. By Cook Neilson
55 Basics: Electrics
And next, the death ray. By Gordon Jennings
64 Product Evaluation: The Victor Compression Release
Engine braking with the pull of a lever. By Dave Holeman
66 Number One
It's Jimmy Weinert. Spend a day with him. By Sam Moses
72 The Baja Bruisers
The value of an objective attained. By Pat Sine
74 Carruthers at the Top
For Kel, a long and fascinating trip. By Jess Thomas
79 AMDRA Comes to Irwindale
Ontario's New Orthodoxy continues to prevail
83 Short Circuit Search
Wrapped in the arms of frustration. By Jess Thomas

Departments

4 Editorial / *All Climb and No View / Cook Neilson*
6 Letters / *Mud Wasps*
8 Downhill Straight / *Coat Tale / Mike Shuter*
10 Pipeline / *Here We Go Again / Jim Greening*
19 Tips / *The Yamaha in Your Life*
30 Newsline / *New Stuff, Neat Stuff*
63 Book Review / *The Motorcycle World*
108 Classified Ads / *Goods and Services New and Used*
113 Readers' Service / *How to Find What You Saw and Liked*

P. Thomas Sargent, *Publisher*
Cook Neilson, *Editor*
Gordon Jennings, *Barnacle Scraper*
Jess Thomas, *Technical Editor*
Phil Schilling, *Executive Editor*
Dale Boller, *Associate Editor*
Dave Holeman, *Associate Editor*
Gabe Lukacs, *Production Editor*
Paul R. Halesworth, *Art Director*
Teri Lamoureux, *Art Assistant*
Michael Shuter, *Contributing Editor*
Jim Greening, *Contributing Editor*
Kevin Cameron, *Contributing Editor*
Bettyanne Chalem, *Editorial Assistant*
Joe Mesics, *National Advertising Director*
Edward J. Judge, *Eastern Regional Ad Manager*
John C. Kohr, *Midwestern Ad Representative*
Ken Fairleigh, *Southern Sales Representative*
Jack Cady, *Western Regional Ad Manager*
Linda J. Sutton *Western Sales Representative*
Edward D. Muhlfeld, *Publishing Director*

This Month's Cover: Resplendent in brown and gold, the Honda 500 twin clutches for tradition with its new classical look. But looks, as we found out, aren't everything. Photography by Larry Willett.

Copyright © 1975 by Ziff-Davis Publishing Co. All rights reserved.

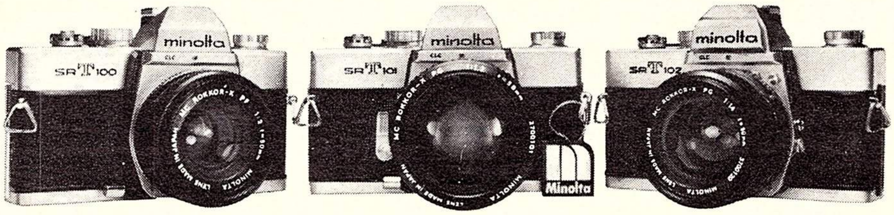
Minolta helps you scramble for glory.

Beat the competition with a camera that doesn't get in your way.

You're comfortable with a Minolta SR-T from the moment you pick it up. This is the 35mm reflex camera that lets you concentrate on the picture, because the viewfinder shows all the information needed for correct exposure and focusing. You never have to look away from the finder to adjust a Minolta SR-T, so you're ready to catch the one photograph that could never be taken again.

And when subjects call for a different perspective, Minolta SR-T cameras accept a complete system of interchangeable lenses, from "fisheye" wide angle to super-telephoto.

Try a Minolta SR-T and move into fine photography. For more information, see your photo dealer or write Minolta Corporation, 101 Williams Drive, Ramsey, New Jersey 07446. In Canada: Anglophoto Ltd., P.Q.



Minolta SR-T 100/Minolta SR-T 101/Minolta SR-T 102

Is your camera a means of self-expression? If so, enter the Minolta Creative Photography Contest. Grand Prize: two weeks in the south Pacific islands for two, $1000 cash, and a Minolta SR-T 102. 1428 other valuable prizes will be awarded. Nothing to buy. Minolta equipment not required. See your Minolta dealer for details and registration. Or write: Minolta Creative Photography Contest, Box 1831, Blair, Neb. 68009.

CIRCLE NO. 36 ON READER SERVICE PAGE.

EDITORIAL CONTRIBUTIONS must be accompanied by return postage and will be handled with reasonable care; however, publisher assumes no responsibility for return or safety of artwork, photographs, models, or manuscripts.

EXECUTIVE OFFICES
Ziff-Davis Publishing Company
One Park Avenue
New York, New York 10016

EDITORIAL OFFICES
780-A Lakefield Road
Westlake Village, California 91361

ADVERTISING DIRECTOR
Joe Mesics
One Park Avenue
New York, New York 10016

NEW YORK OFFICE
Edward J. Judge
212/725-7462

LOS ANGELES OFFICE
Jack Cady
Linda Norris Sutton
Jack C. Kohr
9025 Wilshire Blvd.
Beverly Hills, California 90211
213/273-8050

CHICAGO OFFICE
Jack C. Kohr
233 North Michigan Avenue
Chicago, Illinois 60601
312/726-0892

SOUTHEAST REPRESENTATIVE
Ken Fairleigh
Box 3956
Charlotte, North Carolina 28203
704/366-1434

Advertising Service Manager
Anne Speaker

CIRCULATION OFFICE
CYCLE Magazine
P.O. Box 2776
Boulder, Colorado 80302

Ziff-Davis Publishing Company

William Ziff	President
W. Bradford Briggs	Executive Vice President
Hershell B. Sarbin	Senior Vice President Secretary, and Treasurer
Philip Sine	Senior Vice President
Philip T. Heffernan	Vice President, Marketing
Frank Pomerantz	Vice Pres., Creative Services
Arthur W. Butzow	Vice President, Production
Edward D. Muhlfeld	Vice President, Sports Division
Furman Hebb	Administrative Vice President
George Morrissey	Vice President
Sydney H. Rogers	Vice President
Sidney Holtz	Vice President
Lawrence Sporn	Vice President, Circulation

SUBSCRIPTION SERVICE: Forms 3579 and all subscription correspondence should be addressed to **CYCLE,** Circulation Department, P.O. Box 2776, Boulder, Colorado 80302. Please allow at least six weeks for change of address. Include your old address, as well as new—enclosing, if possible, an address label from a recent issue.

CYCLE February, 1975, Volume 26, No. 2. Published at One Park Avenue, New York, N.Y. 10016, by Ziff-Davis Publishing Company—also the publishers of Boating, Car and Driver, Flying, Modern Bride, Popular Electronics including Electronics World, Popular Photography, Skiing, and Stereo Review. One year subscription rate for U.S., U.S. Possessions and Canada $8.98; all other countries $9.98. Second class postage paid at New York, N.Y., and at additional mailing offices. Authorized as second class mail by the Post Office Department, Ottawa, Canada and for payment of postage in cash.

(advertisement)

THE HONDA REPORT

February, 1975 HR #14

© 1975 American Honda Motor Co., Inc.

Mike Bell Captures Number One CMC Plate on 125cc Honda Elsinore.

Riding a Honda 125cc Elsinore™, 17-year-old Mike Bell, a La Habra, California high school senior, took the 1974 number one plate in the Southern California region of the Continental Motosport Club 125cc Pro Class Competition. Mike raced in the year-long rivalry – often as many as four races a week – until he had built up an insurmountable lead with two months of racing still left in the season. Mike continued to race, completing over 150 races in all and demonstrating a consistent winning pace that is not likely to be soon eclipsed. Mike also scored another impressive victory when he took second place in the special high school race at the Superbowl of Motocross, being barely edged out of first place by Team Honda rider Marty Smith (who also raced a 125cc Elsinore). Mike's big score in the CMC championship is reason to look for more news about this young up-and-winning motocrosser.

The Fabulous GL-1000. It's a Bike Worth Waiting For.

You've heard about the big new Honda motorcycle – the GL-1000 – and by now you're reading test reports from independent sources. All of these reports echo the same thought. The GL-1000 is a big advance in motorcycle engineering. Test riders are impressed by its quietness, response and ride. Some have called it the ultimate motorcycle. And so perhaps will you. Look for it soon at your Honda dealer's.

New Honda Motorcycles to be on Display Near You.

Demand for the 1975 motorcycles may have prevented you from seeing all of them "in the flesh." Well, until they all arrive at your local Honda dealer's–which won't be long–take advantage of a full view of the lineup at one of the many cycle shows slated to appear around the country. Honda has scheduled over a dozen major exhibitions in the coming months. You can see many of the new models, including the brand-new CB-400F, the elegant CB-500T, the quick CR-125M1 and lots more. Ask your local dealer for information about these shows.

Honda TL-250 and Sammy Miller Tops in Jersey Two-Day Trials.

The Trials Pride of Great Britain, Sammy Miller, has done it again in yet another major trials competition aboard a Honda TL-250. Sammy and the Honda TL-250 performed their balancing act in one of England's toughest trials meets, the Jersey Trials, beating the runner-up with a total of 44 marks lost vs. his nearest competitor's 82 marks lost – which is phenomenal, especially considering the fact that only the first three contenders finished with double-digit scores, all others finishing well into the hundreds. What makes Sammy run? Put a superstar together with a super trials machine like the Honda TL-250 and you've got a combination that's hard to beat. By the way, look for the debut of the fantastic Honda TL-250 at your Honda dealer's this spring.

CR's are sold "as is" without warranty. Team Honda bikes are factory prepared. M1 indicates model change.

CIRCLE NO. 37 ON READER SERVICE PAGE.

Editorial

All Climb and No View

● The way Mark Brelsford rode the Yamaha 250 twin in the heat race, we knew something was up. It was Laconia in June, 1971. Steve McLaughlin, riding for Warren Bales' Competition Accessories of Xenia, Ohio, had crashed his Yamaha 350 in practice. Brelsford was asked if he wanted to take a crack at the Lightweight field with Bales' undamaged 250. After checking with Dick O'Brien, Harley-Davidson's racing team manager then and now, Mark said sure. He bolted a set of Number Seven plates (no fairing) on the Yamaha, cut a few laps of practice, and headed for the grid for his Lightweight heat. As I recall it was Mark's first-ever ride on a Yamaha 250 road racer. He won his heat, just like that, no muss, no fuss. I asked him later what it was like. "Wow, it's really easy to ride. Only took me three or four laps to get used to it. But it's different from my Harley. I can't pitch it into corners like I can my Harley, because its center of gravity is much lower. And I don't have to muscle it around at all."

Kel Carruthers was hot as a pistol that year. He won just about every Lightweight race there was on the schedule, and while he wasn't crazy about the Laconia track he liked it well enough to go fast on it. In the Lightweight final Carruthers picked off a quick-starting Gary Fisher and seemed well on his way to another win.

Except that Mark Brelsford was closing on Carruthers and a tidy rate. But just as Mark got Kel in his sights the Competition Accessories Yamaha slowed with a recalcitrant Krober, and Brelsford was suddenly out of the race.

It looked from the beginning of the National the next day that he would be out of that one too. He had worn out a tire in his heat race, and as Carruthers and Mann were circulating comfortably in front, Mark, after 20 laps, was 19 seconds behind, feathering in a new tire.

It was feathered by lap 45 of the 63-lap race. By lap 51 Brelsford boomed past Dick Mann for second, and three laps later he blasted Carruthers for the lead. But Carruthers got back by almost immediately and turned up the wick on his Yamaha 350. "Kel's been strokin' it," we all thought. "Now he'll really get some *distance.*"

He didn't. Brelsford was right there, marshalling his concentration and his luck for one last lunge, and on the last lap everything happened at once. Carruthers ran into Don Castro when Kel selected the wrong line. Neither crashed; both wobbled. Brelsford saw the collision, got excited, screwed on the gas and slid his HD sideways through the fastest corner on the track. Mann, behind Brelsford, saw Mark skid and got excited himself. Then he discovered that he had no rear brake.

Brelsford was closing, inch by inch, on Carruthers. He took a big cut at him two corners from the end of the race, didn't make it and just about crashed. Around the next corner was the finish line. Mark had tried the conventional sweeping Carruthers line through the last corner during practice and had discovered that it didn't work for him. The wide line took the bike over some choppy pavement, and while Kel's Yamaha was not distracted Mark's HD chattered unhappily. So Brelsford selected an inside line; he would go right for the corner's pole, do all his turning at once, and accelerate out. He selected the same line for one last crack at Carruthers. Another rider, Larry Koop, was negotiating the last turn as Kel and Mark barreled into it. Kel set up on the outside; Brelsford stabbed his Harley straight at the apex, inside Koop. Koop, startled, moved to the outside a few feet—just enough to put a tiny kink in Carruthers' perfect line. It was all Brelsford needed—he won by six inches in the greatest road race of the decade.

He was twenty years old then, in the Spring of 1971, and he could do it all. He was a demon indoor short-tracker, a quick and purposeful half-miler, a consistent TT winner and the silkiest and most graceful miler I have ever seen. The following season, 1972, Mark put together a great year of racing and came out the other end with the AMA's National Championship. AMA racing was then just beginning to attract serious sponsors, decent tracks were opening up and the future of a young motorcycle racer was never brighter—especially a young motorcycle racer with Brelsford's highly-polished skills and instincts.

He came to Daytona in 1973 with fresh Number One plates in all the requisite locations and proceeded to dazzle Daytona's knowledgeable infield-watchers during practice. "Have you seen Brelsford go through the infield?" Jess Thomas asked me that year. "Great God!"

But the 750cc Harley-Davidson Veetwins were closing in on the end of their ropes in '73, and whatever advantage Mark could sock away negotiating Daytona's six infield turns was obliterated—and then some—by the Suzukis and Kawasakis once they reached the oval. Still, Mark managed to qualify thirteenth.

On the race's eleventh lap Brelsford had to pass two competitors—one was going slow and one was stopped—at the entrance to Daytona's notorious infield sweeper. He didn't quite make it. His bike was instantly converted into a rolling bonfire. By the time Mark stopped bouncing along the ground he had suffered a trashed left hand and wrist, a deeply cut knee, a broken leg, and mouth cuts.

We thought at first that Mark would be out of commission for good, but slowly, painfully, after what must have seemed a million operations, he began working his way back. He was in pretty good shape for Daytona '74—good enough to cause his boss, Dick O'Brien, to be frankly astonished by his speed. "It's just as if last year never happened at all," he told me.

But that was the year of the Yamaha TZ-700s; he could have ridden a million miles an hour over the limit and it wouldn't have made any difference.

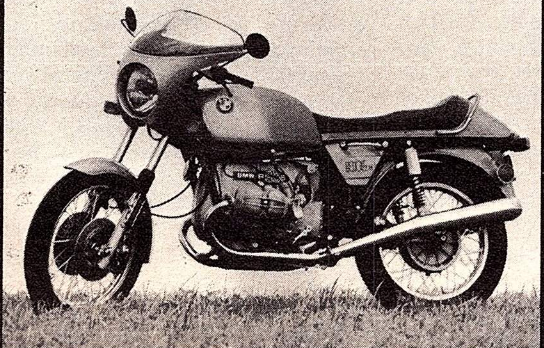
The next time I saw him was at the first San Jose Mile, early in the summer of the '74 season. He was beginning to have Alaska on his mind, and before the Main Mark said that he was giving serious consideration to retirement. His hand never really healed properly anyway, and although Brelsford had not lost a particle of his sublime Mile grace his bike didn't make it that day. Besides, put yourself in his place. Hadn't he won this country's most important motorcycle championship at the age of 21, and then seen all the rewards of that championship go up in Daytona flames? Hadn't he read about the next generation of Young Lions, led by Kenny Roberts and Gary Scott, and at least wondered privately if he was ever going to be sound enough to lick them?

He must have. But Brelsford did *not* retire. Not then. Not, in fact, until just recently, even though he got himself into yet another eggbeater crash, this time at Columbus in June of '74. He broke his leg between the knee and hip there, and all of a sudden, it seemed, his body had had enough. For whatever reason—too many physical traumas, not enough recovery time from previous injuries, whatever—Mark began having curious difficulties getting healed, and he figured enough was enough. He hung it up at the age of 23 after a four-year association with the Harley-Davidson Motor Co. and headed back to Alaska, where he is planning to live with his older brother.

I guess we were lucky to have him at all, a nice kid like that. Because winning races wasn't all he was good for. He remembered people's names. In those situations where a few words to a large gathering of people were called for, Mark was witty, smooth and charming without being sticky. He was cooperative with the press, bright, logical, and continued to be flattered when people asked for his autograph. Like most big-time motorcycle competitors he was better—much better—to the sport than the sport was to him. I swear, if they paid Mark Brelsford and people like him a million dollars a race, it'd hardly be enough.

—Cook Neilson

"This BMW handles better than any bike I've ever tried. It's a cornering fiend. Ride one, and you're hooked."



With its flat twin engine and shaft drive, the BMW is different, and better, than most motorcycles.

Take that flat twin engine.

By concentrating the major engine parts low, the center of gravity is kept low. So the bike handles better.

Having the cylinder heads in the air flow ensures the BMW will always run nice and cool, too.

Placing the engine across the frame has another advantage. It allows us to run a driveshaft out of the back of the gearbox, a driveshaft that is trouble-free.

Of course, a BMW offers more than a unique engine and driveshaft. Like incredible comfort. Powerful brakes. Quartz halogen light. Even a 24 piece tool kit.

For 1975, there's more. Like perforated discs, new controls, stronger electrics, exciting new colors, and an even more comfortable seat.

The BMW. It's different because it's better. Find out why at your local dealer. You'll find him in the Yellow Pages.

U.S. Importer: Butler & Smith, Inc., Norwood, N.J. 07648/Compton, CA 90220. In Canada, BMW Motorcycle Distributors, Ontario, Canada. European delivery plans available.

BMW

Bavarian Motor Works
50 years of building the world's finest motorcycles.

CIRCLE NO. 43 ON READER SERVICE PAGE.

Letters

Mud Wasps

Maybe Ossa is using trained mud wasps to do the welding on its new MX bike. Any reasonably competent MIG welder can produce "eye-pleasing" beads, even on thinwall tubing, if he isn't being rushed (piecework maybe?) or isn't unconscious.

Roy S. Nathans
Clifton, N.J.

Free Lunch

It has not been the custom of *Cycle* to print generalities based on ignorance, so I'm surprised that you didn't take your blue pencil to Mike Shuter's comment about whether the AMA or FIM has done the least for motorcycling in 1974. Now, please don't view this as a recommendation for the AMA's benefit, but rather as a suggestion that judicious use of the pencil would have made Shuter look a little less stupid.

Shuter could remedy his ignorance by becoming a member in order to receive regular communication from the Association. Or, if he can't handle the eight bucks a year, maybe he could finagle a free lunch and some education out of *Cycle* Publisher Tom Sargent, who meets regularly with his colleagues on the AMA Board of Trustees and, therefore, is well aware of what AMA has done for motorcycling this past year.

Ed Youngblood
General Manager
AMA

Shrinkin'

PRAISE de LAWD an' may de SAINTS preserve us—we is g'wine to receive de blessin' of de glo-rious shrinkin' dollah!!!

Dat's right—see, Massah Lee I-oh-cocoa (he da main honkey over to de Foad Moto-cah Comp'ny) he done sed dat de Pinto moto-cah is g'wine t' cos' *fie-thousan' dollahs* in nineteen sebbenty-eight!!

Dis means dat a body like me—what cain't a-fode to spen' mo' fo' a new sebben-fitty see-see moto-sackel den he do fo' a bran' new shiny auto-mo-bile—*can finely buy hisself* one!!!

Earlie Boomer
Royal Oak, MI.

Cornucopia-Pornocopia

The December issue was fine, as usual, until pages 82–88 (Christmas Cornucopia 1974). The use of a semi-nude woman's body as a foil for motorcycle hardware is a very poor exercise in product-selling on the part of an excellent magazine. I hope that you will refrain from such displays in the future; and, if certain members of your staff feel they need more exposure than is provided by the contents page, may I suggest that *they* pose.

Sheila Musgrove
Seattle, WA.

Forsooth! Needless to say I have been much taken by the results of the sex-change operations of 3 of your staff. Jess never looked sooo delectable. My compliments on "Christmas Cornucopia '74."

D.S. Perkins
Westminster, CA.

As a woman subscriber to your magazine I must let you know that I am not in the least turned on by the attitude evinced in your magazine that women are supposed to look pretty while men do all the important things like ride motorcycles. I own a motorcycle and am infuriated by the advertising which is so obviously sexist and does not appeal to me as a serious consumer of motorcycles and accessories. I am particularly referring to the advertisement which appears on the back cover of the December 1974 issue of *Cycle* Magazine. The Indian Motorcycle Company is obviously not aware of the fact that they are missing out on 51% of the population of eligible consumers when they direct the use of their MINI MINI cycle to the growing *boys*. Their ad has to be seen to be believed for its sexist marketing promotions. The rest of the advertisers might do a better business also if they took a good look at their disgusting use of women as sex objects instead of women as consumers.

Linda Hack Barnes
Chicago, Ill.

Dear Jessica Thomas,

From reading the December 1974 issue of *Cycle* I realized that you're the most beautiful woman I ever saw. Could you please send me some pictures of you and tell me some things about you: age, if married, figure. If you have some pictures but it costs money just let me know and I'll send you some. I'm hoping you can send me pictures. I can't believe how beautiful you are. If there is any other beautiful women such as Dahlia Boller and Davida Holeman could you please send me some pictures of them too please. I'm willing to pay if I have to. I still can't believe how beautiful you three are. Please write back.

Name Withheld
Mandan, N.D.

Garden State

I own a 74 Honda 750 and for me it's got to be the best bike going—but not for everybody. I don't always like the noise (or exhaust) of two strokes and custom bikes, but I still turn my head and watch till they are out of sight, and someday I hope to own one of each.

Everyone drives a car, few ride a motorcycle. It does take a certain personality to ride a motorcycle, though not the same as a doctor's, and I'm glad I have that unique type of personality.

The question were—is this type of personality allowed to freely roam the great wide open spaces of the Garden State Parkway with the vehicle of their choice? Or has the good gov't of the State of N.J. decided, for the general well-being of all its subjects, that no one from the unintelligent, irrational, unrealistic, and irresponsible masses shall be allowed to bathe within the territorial boundaries of the Garden State Parkway?

Would you perchance have an answer to this question struck by one puzzled subscriber?

Harry Sanders
Berkeley Hgts., N.J.

Yes. The answer is no. Cycle *was informed several months ago of a great victory, the results of which were that the New Jersey State Legislature had passed a bill opening the Garden State Parkway to motorcyclists, from which they had been banned for thirteen years. We were told by the AMA that they expected Governor Byrne to sign the bill forthwith. Guess what. Byrne did not sign, and the Garden State Parkway, one of the safest highways in the United States, continues to be off-limits to bikers.—ed.*

Bias

Your smug, elitist attitude, lashed with heavy doses of conservatism, made such an editorial as "Bias" (Nov. '74) an inevitability. The temptation to grab the Sony recorder and babble a load of prejudices and non-revelations into it and then call in some messenger boy to run the tape down the hall to a secretary for typing must've been too much. It all had to have been building up; a barrage of your special brand of hokum was long overdue.

Bad enough that such pap is legitimized by your position, but it's apparent you don't realize you are part of the problem.

You say you believe "unless young motorcyclists stop killing themselves, the Federal government will feel obligated to do so."

Killing *themselves?*

Well, you began to broach the real world when you stated most car/cycle accidents are the fault of the car driver.

(Continued on page 114)

Fast Track to a Cool Job!

Good Pay! Steady work! Big Demand!

You Get Cycle Tools and Test Instruments to *START YOU FAST!*

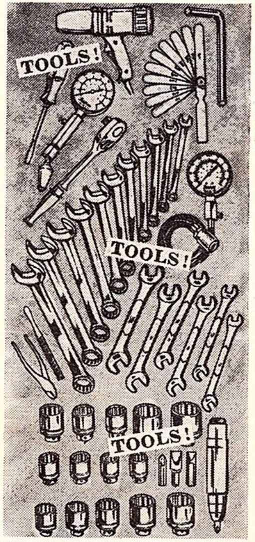
Learn at home in spare time to be a

Motorcycle Mechanic...

If you like to ride a bike for fun... LEARN TO FIX IT FOR PROFIT...

EASY-TO-UNDERSTAND LESSONS GIVE YOU PROFESSIONAL "KNOW-HOW"

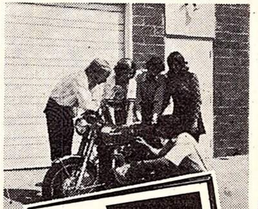
Everything is explained in easy-to-understand language, complete with drawings, diagrams and photographs. You'll learn all about engines, carburetion, fuel systems, electrical systems... how to align wheels, repair transmissions and clutches... replace cylinders, rods and bearings, and much much more! Plus you'll get trouble shooting and time-saving "tips" that make you a real "pro." In short, you'll learn everything you've ever wanted to know about motorcycles.


TOOLS!
TOOLS!
TOOLS!

SPECIAL CYCLE TOOLS & TEST INSTRUMENTS INCLUDED TO START YOU FAST!

Professional tools plus your North American "know-how" turn you into a skilled mechanic. We teach you how to use wrenches, sockets, impact screwdrivers, timing lights, electrical test instruments, compression gauges, vacuum gauges, degree wheels, soldering irons, ignition wrench sets, dial indicators and much, much more! We even include a set of special cycle tools and instruments to get you started **fast!** These are yours to use during your training... and yours to **keep** in your action-packed career as a motorcycle mechanic. Find out all about it now. Send for FREE "Motorcycle Mechanic Career Kit." No cost, or obligation... now or ever! Rush coupon today.

95



MAKE NEW FRIENDS—BIKE OWNERS WILL SEEK YOU OUT

Be the envy of friends & neighbors as they flock around to watch you tear down and tune-up all kinds of motorcycles. And just think of the satisfaction in knowing you've got the best performing bike in town. Plus, you can make extra dollars fixing motorcycles for your friends and neighbors.

YOUR FUTURE IN MOTOR CYCLE REPAIR

NORTH AMERICAN SCHOOL OF MOTORCYCLE REPAIR
4500 Campus Dr., **Dept.** EA015 Newport Beach, CA 92663

NO PREVIOUS EXPERIENCE NECESSARY Learn everything from minor tune-ups to major overhauls... **even if you're a beginner.** Experts show you what to do, how to do it—guide you every step of the way to become an expert motorcycle mechanic. Can you imagine a better way to earn your living? And to make it even better, the pay is **great**—whether you choose to work in a cycle shop for somebody else or decide to start your own motorcycle repair business. Now, thanks to North American, there's a fast easy way to get the training you need... **at home in your spare time.** No need to quit school or your job.

Motorcycles are Big Business ...and so is Fixing Them

There are more than 3 million motorcycles registered in the U. S. today. Plus an estimated 3 million more dirt bikes. But, there are fewer than 10,000 motorcycle mechanics available to repair them. (Imagine only one mechanic for every 600 cycles!) No wonder career opportunities are so great for the skilled mechanic. And they're getting better **every day!** The door is open to you now. Rush coupon for FREE "Motorcycle Mechanic Career Kit."

SEND FOR FREE "CAREER KIT"

Get all the facts now... without obligation. Be the first in your neighborhood to cash in on the big demand for motorcycle mechanics. Mail the coupon, today, sure! ***Rush This Coupon Now for FREE "CAREER KIT"***

Careers by Home Study
NORTH AMERICAN SCHOOL OF MOTORCYCLE REPAIR, Dept. EA015
4500 Campus Drive, Newport Beach, CA 92663

Rush FREE "Career Kit" on how I can become an expert Motorcycle Mechanic.

NAME ______________________ AGE ____

ADDRESS ______________________

CITY ______________ STATE ________ ZIP ________

Downhill Straight

Coat Tale

● "Okay, man . . . why don't you move to California?"

"Or Arizona?"

"Or Florida . . . how about Texas," rasped the chorus.

I should have known I would get some kind of smarty-arse reception arriving at the diner aboard a bike on a day like that. I stood upon the soggy bristle of a doormat, my forearms parallel to the floor, semi-frozen into a handlebar-gripping attitude. I looked like a cafeteria customer with an invisible tray. I must also have looked like a sort of abdominal snowman, large and frosty, clad as I was in enough clothing to warm a regiment, said regiment having just completed a forced march of fifty kilometers through the Siberian Steppes. Crusts of icy snow upwards of an eighth to a quarter of an inch thick sloughed off out the creases and crannies of the great leather coat and added to the general slop which collected in the tiled welcome well at my feet.

My own image in the back-counter mirrors confirmed my appraisal. Through beads of water on my quickly-misting RAF not-so-safety-glass goggles, I could see my wind-up-doll efforts to get out from behind the woolen muffler twined around the lower face. The dress-up drill with the scarf was to spread one end of it flat across the chest, about a foot of it. Then the rest was led close around the back of the neck and, doubled now, across the face from the bridge of the nose on down. If the muffler was of the right length, and the drill was carried out properly, there was enough material left to tuck into your collar after one more pass around the back of the neck. This served to protect the parts of the head that were not covered by either the helmet or the goggles. There were some leaks, but they prevented suffocation.

Getting into the scarf was easier than out of it. The entry was accomplished in warmth and comfort while the unbinding was attempted under the near influence of chilblains. I was urged to move my struggles further into the diner when Glorier (spelled Gloria), the cashier of the moment, pointed out that A: I was blocking the door, and B: water was running off my elbow into the after-dinner mints.

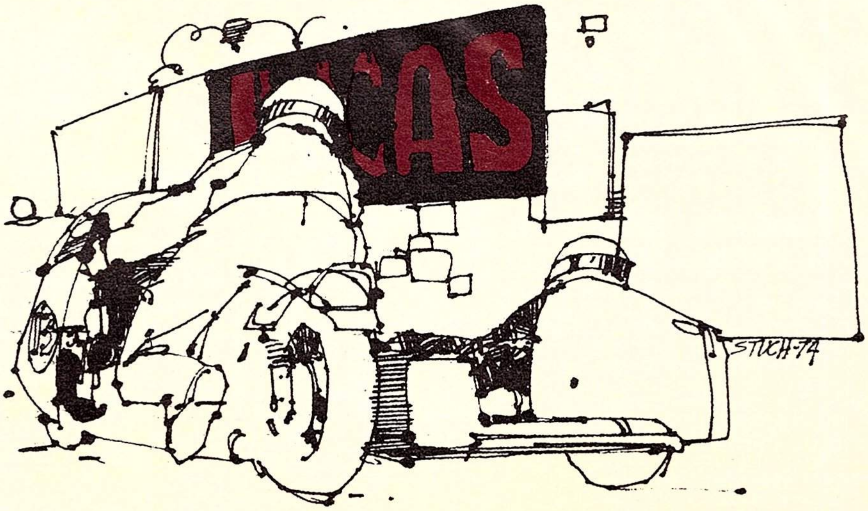
About all I could retort to the zings about moving to a warmer clime was a weak "Stuffit" and a sweeping-arm gesture of dismissal. It would have been an effective gesture, a firm but gracious arc descending from above the head, down past the waist and then, palm facing the floor, the follow-through. Accompanied by the appropriate smirk at the top, and a fitting smile at the end, such a gesture would have taken some of the paleness out of the verbal portion. The gesture didn't come off. What with all the underwear, middlewear and overwear I had on, I couldn't move very much. I was reminded of that kid in the comics who, once fully dressed to go play in the snow, goes out, slips on the ice, and cannot get up without help. Then these nasty kids arrive and use him for a hockey puck.

Way back then in the bad old days if you were dressed to ride in winter, you were not dressed to walk. The boots in vogue then were called "engineer boots," although any boots would do. They were not just for winter wear, but were the style for all seasons. A motorcyclist who did not wear some kind of boots was rare. Those who wore shoes did so only because of severe social pressures, and those who rode in sneakers were considered foolhardy. One guy we knew rode barefoot in the summer. When winter came he put on sandals which he called "footpads." He was duly considered weird.

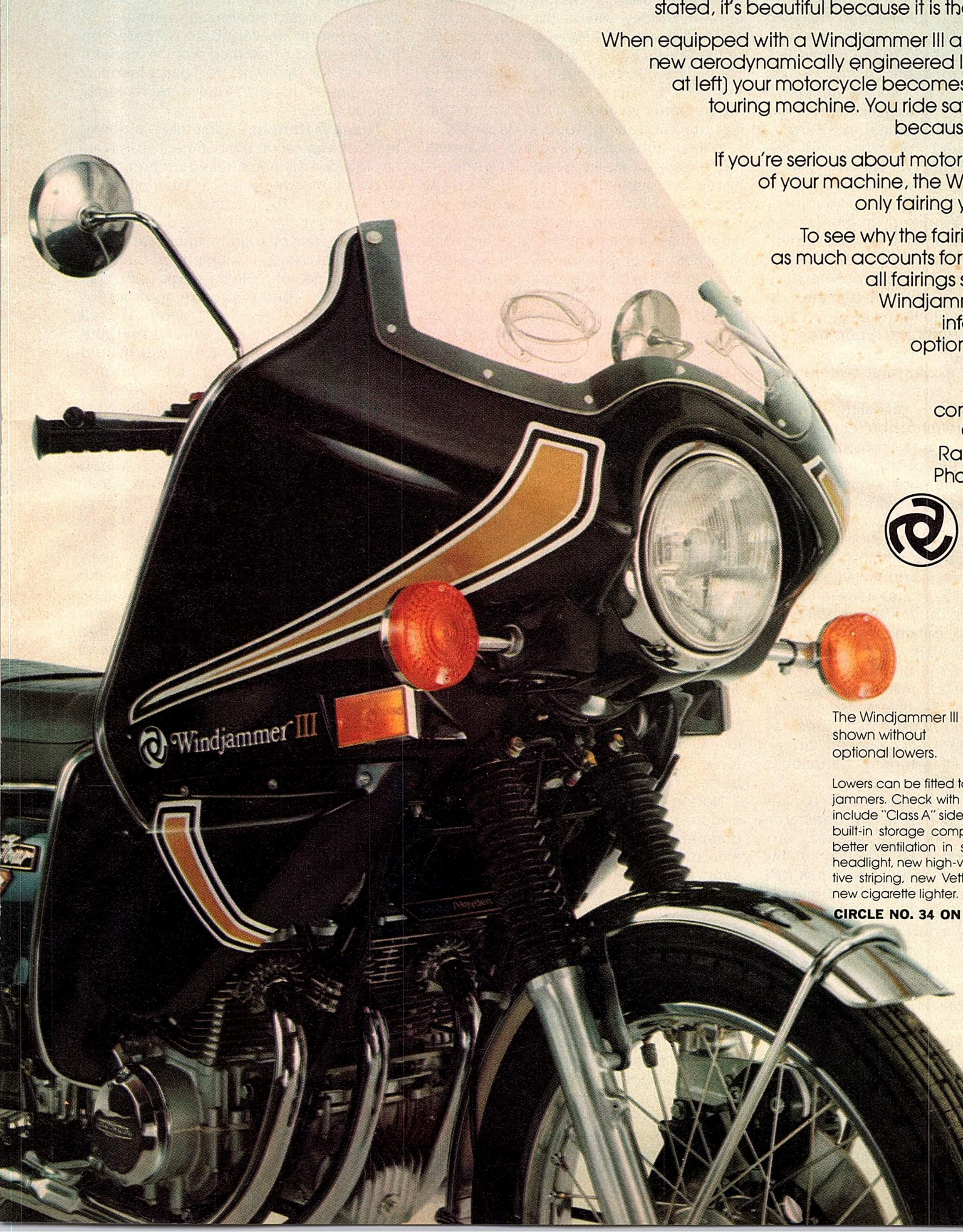
Engineer boots of the best sort were made of genuine elk leather, and if it was possible to shine them, no one I ever knew did. They were thick-soled and thick-sided and offered substantial and sensible protection for the foot and lower leg. They were heavy, and in the summer, hot. In the colder months, with proper socks, they would keep your feet pretty cozy riding medium distances, but they were hot to walk any distance in. A version of the standard engineer boot was available with a sheepskin lining, but I am sure they only sold well around Nome and points north. To this day I do not know why they were called engineer boots, except that even new they looked as though they had done service in a locomotive cab.

If the boots came off the engineer, the gloves might have been the fireman's. Also of the same flat-black elkhide, they were not gloves at all, but mittens with hard shiny-black gauntlet wrists designed to seal out updrafts from the sleeves. Made thicker by a sheepskin lining the mitts were practically inflexible, capable of gripping nothing smaller than a coal-shovel, thus appropriate for handlebars, but totally useless for throwing switches or selecting toll-booth change. Wearing them, one's arms seemed to terminate in dirty thumbed baseballs. And once your hands got cold inside them, there was no getting them off without help or ingenuity.

(Continued on page 106)



The Windjammer® III
All you need to know about fairings.



The Windjammer III is the proud successor to the fairings that created a whole new concept in motorcycle riding comfort.

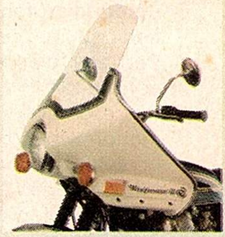
The beauty of the Windjammer III is a direct result of the function it is designed to perform—protecting you from the wind. And it does this better than any other fairing made. Simply stated, it's beautiful because it is the very best there is.

When equipped with a Windjammer III and our remarkable new aerodynamically engineered lowers (as pictured at left) your motorcycle becomes a truly year-round touring machine. You ride safer in cold weather because you ride warmer.

If you're serious about motorcycling and proud of your machine, the Windjammer III is the only fairing you need consider.

To see why the fairing that costs twice as much accounts for one out of three of all fairings sold, get the Vetter Windjammer III story and full information on Vetter options and accessories at your authorized Vetter dealer. Or contact Vetter Fairing Company, Dept. C, Rantoul, Illinois 61866. Phone (217) 893-9300.

Vetter
The first to do it right.



The Windjammer III shown without optional lowers.

Lowers can be fitted to most earlier model Windjammers. Check with your dealer. Other options include "Class A" side lamps, tonneau covers (for built-in storage compartments), snap vents (for better ventilation in summer), Carello Halogen headlight, new high-visibility wrap-around reflective striping, new Vetter/Hayden oil cooler and new cigarette lighter.

CIRCLE NO. 34 ON READER SERVICE PAGE.

Distributed in Canada by:
Marquette
Marketing
Corp., Ltd.
Ontario

MIC

Pipeline

Here We Go Again:

● Regular readers of this column may believe this columnist has a neurotic obsession with *Federation International Motocycliste* affairs. Pipeline has followed the FIM's traumatic flirtation with Formula 750, a concept foreign to the inbred European partiality for exotic racing classes, but at one time F750 had the deceptive appearance of cementing a common racing bond between America and Europe. The FIM destroyed Formula 750 by ostracizing the TZ700 Yamaha.

Cycle ("The Circus Is Coming") exposed the AMA's turn on tradition; it declared that roadracing machines no longer required a host of production brethren before being registered legitimate. And because these events have fallen over each other in a matter of months, you may think (with relief) that there is nothing further to report from the international front.

You'd be wrong. For one of the major tasks facing the recent FIM Congress in San Marino was the recasting of F750 into order to promote congeniality and achieve some degree of permanency. Predictably, the FIM dished up a compromise package. The engine homologation requirement would be reduced from 200 to 25, as already ruled by the AMA nationally, and as everybody expected it would be. The new formula (300–750cc) wouldn't receive world championship recognition for 1975; that decision satisfied and annoyed roughly equal numbers. Perhaps classic ranking would be accorded to F750 in 1976. The minimum distance of every F750 championship promotion would be 200 miles, *a la* Daytona, or split into two 100-milers. So can the FIM maneuvering be interpreted as Europe following America's lead, or can it be construed as re-forging the tenuous trans-Atlantic link?

Wrong again. Whatever the similarities on paper, the practicalities of transforming a paper-formula to track-racing vary enormously. For AMA officials, in my judgment, it's a straightforward task free from irrelevancies. They put a formula to work within the framework of a neat little fixture list; they know precisely what is wanted and have a pretty fair idea it will work; and they work with people they really know.

In Europe, uncertainty is king. The revived Formula 750 must be squeezed into a roadracing-fixture overload as an unknown quantity. Nobody knows whether F750 will have world championship recognition in 1976, or if a F750 classic series will stand below, equal or above the traditional *grands prix.* The support for 200-mile races in a relatively insignificant 1975 championship cannot be assessed.

Formula 750 was floated in 1972 on a wave of enthusiasm. The second time around, it's been greeted with mixed feelings—in stoney silence by the majority, while a few roused themselves to cautious praise. Rod Gould, Yamaha Public Relations Manager, thought it a major step in the right direction. Gould spoke with all the authority vested in a corporation that has the 750 racing world at its mercy.

In fact, the reaction of the Japanese has always been—is and will be—determined by competition policy in the USA. European 750cc racing by Yamaha, Suzuki, Kawasaki and Honda must be considered as an extension of their AMA activities. If, for example, Suzuki decides to build 25 seven-fifties similar to the 500 GP square-four to obtain AMA approval, they'd happily send a couple of examples to race in whatever European big-bike championship that happens to be going.

When Europe is considered in isolation, the important thing—perhaps the sole justification for F750—is getting the European manufacturers interested and involved. That the possible participants happen to manufacture four-strokes is reason enough to offer up prayers for a mass conversion to the racing principle. Unfortunately, a survey of manufacturers suggests that those prayers will go unanswered. Nothing has happened in the not-too-distant past to raise hopes. But plenty goes on to dash them.

***Norton*-Triumph:** Frank Perris regrets that F750 lacks world championship status, but looks forward to the time it stands alone as *the* world championship. Since Perris reiterates Denis Poore's familiar statement of intent, it is difficult defining the division between company loyalty and unbiased assessment of Norton's place and prospects in nothing-barred 750 racing.

Norton has machinery and financial concern. The grand old Commando boomer refuses to fade away and, from time to time, bursts forth with creditable short-circuit performances. But nobody pretends it has a capacity for sending TZ700s packing to order. The long-awaited Cosworth engine remains undelivered at present, and no one knows how the dohc-twin-in-Thruxton-superframe will fare in a two-stroke racing world. But it will be fun finding out, *if* the money supply doesn't dry up first.

Unfortunately, that situation looks probable since the John Player cigarette group, on whose advertising/promotional budget Norton racing largely depended, suddenly severed the financial life-line. Unless another sponsor with similar altruistic leanings can be unearthed very soon, Norton will stop racing—nothing on the grand scale, at any rate. More gloom: the Cosworth timetable could be thrown out of gear. Even before the John Player drop-out, most semi-official estimates of the Cosworth delivery date bordered on the pessimistic, ranging from a hopeful "in time for Daytona" to "don't mention my name, but next June if we're really bloody lucky."

***Triumph*-Norton:** Triumphiles let loose tears of frustration every time the JP Norton failed, and they choked on dreams of what might have been if Triumph triple development hadn't stopped dead in 1972. Triumph lovers longed to see an amalgamation of Triumph engine and Norton frame—Norton-Triumph *in toto.* No chance. The John Player association was strictly with *Norton,* and the contract (or gentleman's agreement) stipulated *all* Norton. Now that it's Norton-less-JP, the most naive Triumph supporter would concede that financial considerations ended any racing comeback for the triple. There has never been money in the Norton-Triumph kitty for bolstering-up fancy racing pretentions at the Triumph end, and the merest hope of Triumph racing was always conditional on a sponsor putting up the cash—*every* penny. Fat chance, in the pervading climate of economic gloom.

MV-Agusta: As Daytona looms near, MV will conceivably make noises which the uninitiated take as an MV commitment to AMA racing. Following Daytona, and MV's non-appearance, it will be explained that *next year* is the time. It's happened before, though a repeat performance is less likely.

The nearest MV came to being AMA-legal was their 750 racing prototype for the 1972 Imola 200. Since then they've blown hot and cold. In mid-1974, the Count's company strained at the F750 leash. A new 750 was underway, they said; all would be ready for Daytone '75, you betcha. Looking exactly like the 500cc GP four (except for being 0.4 of an inch wider) and developing 125 bhp, and conserving gas in a way the Yamahas and Suzukis never could, the promise of the big MV sent four-stroke addicts into ecstasy. And, wonder of wonders, the 750 MVs would be offered for sale in the manner of TZ700s.

In the last quarter of '74, MV's super-seven-fifty had mysteriously evaporated, and MV had no plans for contesting the 750 class. No factory representative bothered to explain the policy switch. But if anyone clutched straws believing MV's turnaround was really masking an undercover job, Phil Read promptly demolished the theory with his mutterings about join-

(Continued on page 110)

©1974 R. J. Reynolds Tobacco Co.

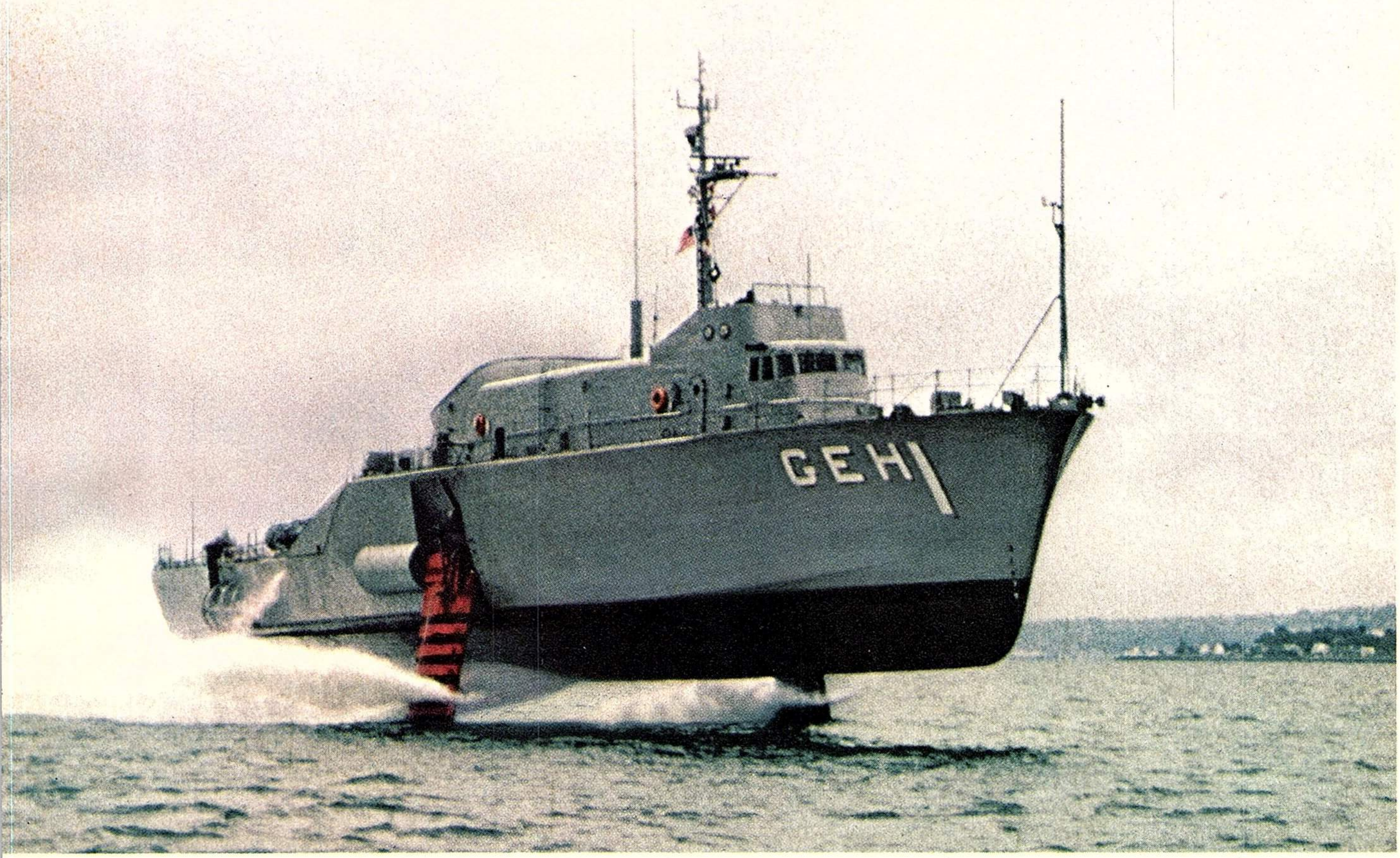
If it wasn't for Winston, I wouldn't smoke.

Taste isn't everything. It's the only thing.
I smoke for pleasure. That's spelled T-A-S-T-E.
That means Winston. Winston won't give you a new image.
All Winston will ever give me is taste.
A taste that's very real. If a cigarette isn't real,
it isn't anything. Winston is for real.

Warning: The Surgeon General Has Determined
That Cigarette Smoking Is Dangerous to Your Health.

19 mg. "tar," 1.3 mg. nicotine av.
per cigarette, FTC Report
OCT.'74.

Life's what you make it.
Make it great.



Opportunity. Challenge. That's the stuff a good life's made of.

You'll get plenty of both in the Navy.

Training for skills you can really get your mind into. And your hands. Radar operation, for one. Or engine mechanics. Electrical repair. And more. If you measure up.

Learn to lead others. Shoulder responsibility for your own work. Whatever you do, you'll earn your success. Working hard. Dealing with your fair share of chores.

But you'll have good times, too. Make friends. See great places. And you can sign up now, but take six months to report. Or nine months if you qualify for a school program.

And if you want help to continue or resume your education, there's the Navy Campus For Achievement program.

Life's short. Make every day count. See your Navy Recruiter. He can tell you what you qualify for before you enlist. Or call **800-841-8000** anytime. It's toll-free. A good job. A good life. The Navy: It's a good deal.

Be someone special. Join the Navy.

awasak

MOST ADULTS I know don't like mud. Or think they don't. Maybe it's because, when they were kids, their parents always said, "Stay out of the mud!"

And if you came home muddy, it was a crime against the universe. That's how it was with me. Just like the next guy, I learned that mud is bad, and nice people stay clean unless they're grubbing around the garden or something.

Then I bought a motorcycle. A Kawasaki enduro. What I had in mind was to have a little fun riding around the boondocks. And for the first couple of week-ends I stayed on the hard and narrow path. The bike was peppy, easy to handle, and I felt good riding it.

But my third time out, it had rained the night before. And there it was confronting me. Lots and lots of mud.

At first I kind of crept through it and got a little splattered, and then I thought, "What the hell," and opened up the throttle and, man, did I go. I roared through every mudhole I could find. And before long I was a flying mudball, Mr. Muddy. But instead of feeling dirty, I felt absolutely clean. My bike must have felt clean too, because it zipped along without one sputtering complaint.

Washing off the mud at home was like washing off the best time I had had in years. I hope next Friday it rains again. Really hard.

Kawasaki
lets the good times roll.

Good times include riding safely. We recommend wearing a helmet and eye protection, keeping lights on and checking local laws before you ride. See Yellow Pages for nearest Kawasaki dealer. Member Motorcycle Industry Council.

CIRCLE NO. 25 ON READER SERVICE PAGE.

A couple of winners.

The truck is the new Toyota 5-speed, Sport Truck.

The bikes are the Yamaha lightweight motocrossers: The MX125 and the MX175

The SR-5 Sport Truck has a new 2.2 liter hemi-head engine, which is the most powerful piston engine in its class. It's the only small truck with 5-speed overdrive transmission. And it gives you standard features that would cost you extra on most other trucks: things like wide oval radials, front disc brakes, full-cut pile carpeting, AM radio, and high-back bucket seats.

The Yamaha motocross machines have a lot of things going for them, too. Features such as Thermal-Phase oil-cooled rear shocks—shocks that will hold up no matter how long or how hard you ride. The bikes also feature Torque Induction, for immediate positive response in the low end. And most important, these Yamahas come from a long line of winning motorcycles.

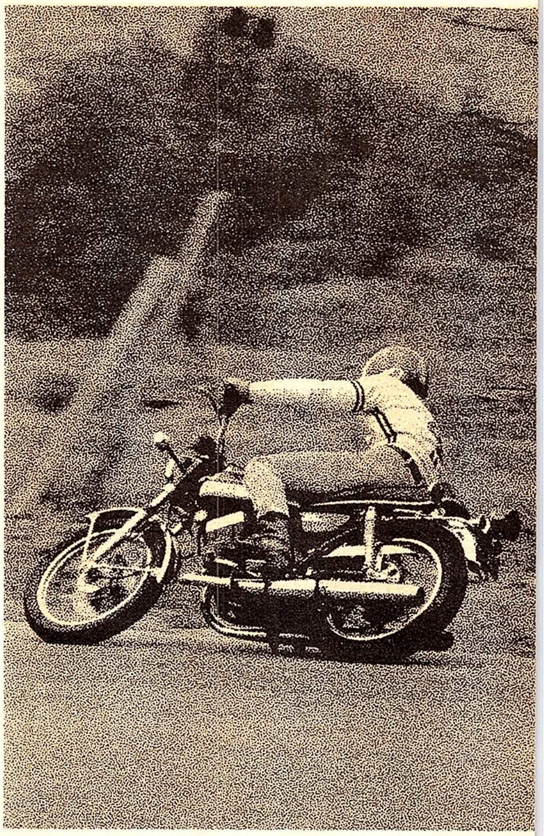
That's a combination that's pretty hard to beat: The Toyota 5-speed Sport Truck, and the Yamaha Lightweight MX Machines.

Someday, you'll own a Yamahauler.

CIRCLE NO. 31 ON READER SERVICE PAGE.

Tips

The Yamaha In Your Life



● Cycle *Magazine has a full-time writing staff of six. It has a full-time readership, at last count, of 436,220. That means you outnumber us by 72,703 to one. With that in mind, let us introduce you to your new* Cycle *department: Tips. We call it your column because it will be your column, written solely by you. All* Cycle *will contribute will be the typographical errors.*

Up to now we and our contributors have written the contents of the magazine. You buy the magazine; we get paid for what we write. It only seems fair, then, that if you write, and if what you write gets published, then you should get paid. So it will be for Tips. Send us a concise, rational, useful morsel of specific information that is presentable enough to publish and we will, upon publication of that morsel, send you a check. The amount of the check will depend on the length, applicability, and cleverness of the Tip.

What kind of Tips are those scoundrels at Cycle *Magazine looking for, you ask? The range is limitless—as long as the Tip revolves around motorcycles or motorcycling. To illustrate: you have discovered how to keep the disc brake on your Norton or Honda from squeaking. Or you have found a way to get 55 mpg out of your Kawasaki H2, or you have stumbled on to a replacement for your bike's lousy condenser, or you have found the secret to keeping your saddlebag sandwiches fresh, or how to keep your faceshield from fogging up in the middle of a downpour. You say your Triumph doesn't leak a drop? Tell the rest of us how, and we'll pay you. We'll pay you if your Honda's turn-signals self-cancel and you're willing to spread the word, or if you have come up with an off-the-shelf close-ratio gear-set for your Kawasaki, or if you can keep your spokes from rusting.*

Arrogant as we undoubtedly are, we realize that we don't know everything. We suspect that between the 436,220 of you, you do. With all that knowledge it only seems fair that you should have your own Cycle *Magazine department. Welcome to it. Send your Tips to "Tips," c/o* Cycle *Magazine, 780A Lakefield Road, Westlake Village, California 91361.*

The following was received from Andy Fabian of Parsippany, N.J. in response to a road test on the new Yamaha RD-350, and serves nicely as an example of what we're looking for:

I'd like to offer some comments that may help the owners of Yamaha R-5s, DS-7s, or other RDs. These are all items that were done as a matter of course, discovered, or proven during the five years I worked at Motion Enterprises, Elm, New Jersey.

You mention in the road test erratic starting and poor plug life. This problem really is related to three areas if all basic components, such as crank seals, cylinders and pistons, reed valves, carbs, etc., are solid. Those three areas are:

a) Breathing—most RDs come with the front, small-diameter portion of their exhaust diffusers wrapped with fiberglass and wire. Pull your baffles, remove the glass and the glop that is sure to be there, and please reinstall the baffles. The noise level will increase, but very slightly. Power and torque will increase noticeably.

b) Ever since the first R-5s, there has been a petcock problem. They leak. Right up to the intake ports they leak. The problem is that gas runs down the threads of the petcock attaching screws, into the petcock body, and thence to your carburetors and crankcase. "Mikunis wouldn't do that!" Yes they would, and do. That's why there are petcocks. So, remove the tank and petcock. Either seal the threads with something gasoline-proof or chamfer the holes in the petcock body with a drill, so you can put o-rings under the screw heads. The stock washer-gaskets? Not needed any more—do what you like. They didn't work any better on oil lines.

c) Sparks—assuming perfect (less than 0.1 ohm resistance, and clean) points and timing, proper battery condition and grounds: make sure that the coils are perfectly grounded, and that the secondary cables are pushed *ALL THE WAY* into the coil towers, before that little washer and nut go on. Throw away the Yamaha resistor plug terminals, replacing them with Lodge or Sparky or something equal. (This alone has cured some incurable, "From-the-first-day-I-owned-It" problems.)

I know this sounds as though Yamaha has made a really advanced British motorcycle, but that's how it seems. They are great bikes, and it's a pity they aren't really right out of the crate—but then neither are the real racers. ◉

Cycle Test

KAWASAKI KS-125

● Most new dirt riders begin on a 125. However logical this starting point to berm-bouncing may be, there are some pitfalls. Thick-wallet types who can afford the best often equate price to suitability and end up with a specialized near-racer in the Penton/Monark/Rickman family. For beginners, these bikes can be more intimidating than pleasing. The average guy will buy a Japanese enduro. He may wind up with a heavy electric-starting Yamaha that he finds cumbersome. His MT-series Honda won't have enough power and his four-stroke Honda won't go very fast. The buyer who listened to his Suzuki dealer won't be unhappy, but he might soon find lawn bowling more attractive than motorcycling. Certain bikes can dull the excitement of dirt riding for a new rider. In this critical learning period the wrong bike can turn him off. "So this is dirt riding?" yawns our neophyte, as he loads up his Capriolo 125 and heads for a pinball parlor.

It's hard to imagine that a KS-125 Kawasaki would lead any new rider to lawn bowling or pinball shooting. The KS-125 has tractable low-end power for easy learning, and the engine is peppy enough at higher revs so that the owner can grow into faster riding without outgrowing his motorcycle. Its engine and handling mix is almost good enough to keep an experienced dirt wizard from dreaming of a Penton or Can-Am.

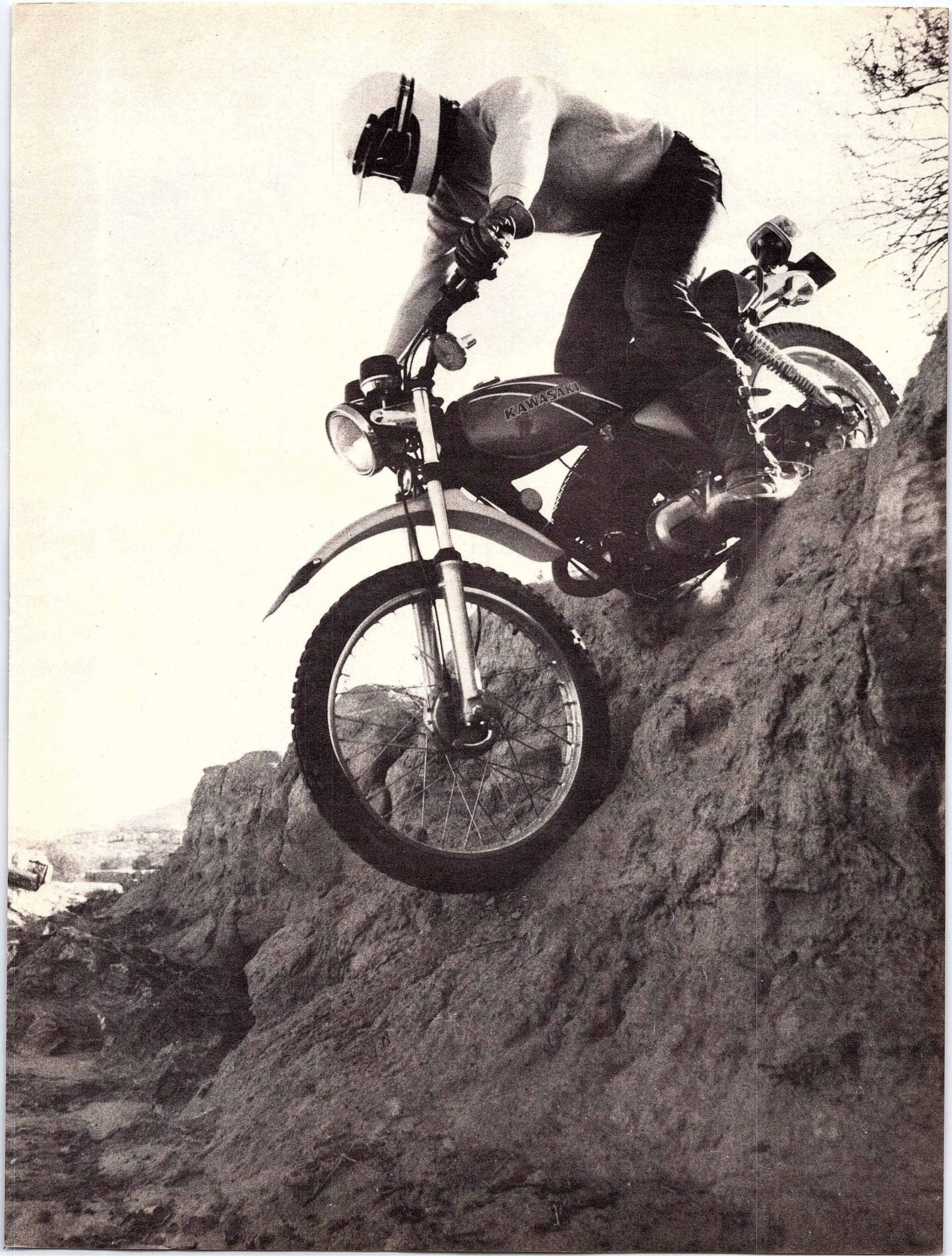
The KS does nothing exceptionally well, but it does everything with relentless adequacy. This singular lack of faults makes the bike seem even better than it actually is. Nice as the KS feels, several specialized European dirt bikes could outdistance it on a fast trail. But then the high-priced Continentals don't have oil injection, primary starting, decent lights, or built-in spark arresters. Nor do they have near the street suitability of the Kawasaki. For the new rider or average rider, the KS-125 is an excellent choice. For the dirt expert who wants to spend equal time on pavement, the KS-125 is a necessary choice.

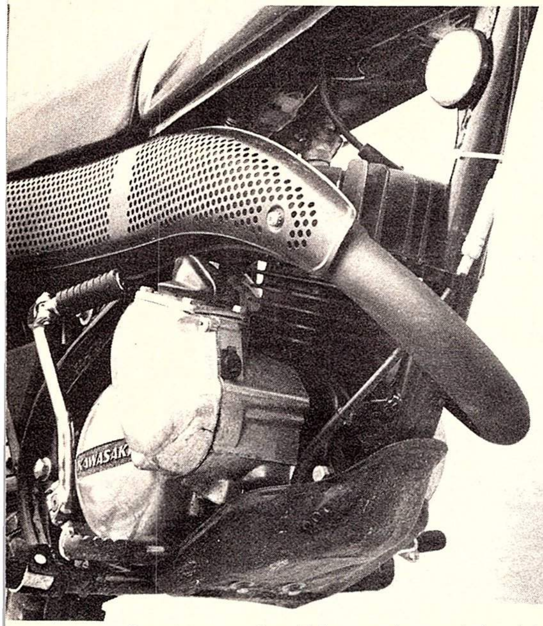
Kawasaki first introduced a 125 Enduro in 1971 when noise and pollution standards were almost non-existent. In keeping with their high performance image, Kawasaki's F-6 blistered competition in the power department, but the thing belched noise and sowed hydrocarbons. So Kawasaki melted all their F-6 tooling and built the KS-125 from scratch.

Kawasaki's stateside R & D facility in Santa Ana, Calif., handled the final prototype development of the KS. This division had just completed a similar job (with tremendous success) with the Z-1 street bike—and the American and Japanese R & D staff eagerly went to work on the 125 off-road scooter. There was a good deal of feedback to the factory, and in the end Japan put most of R & D's suggestions into production bolt for bolt.

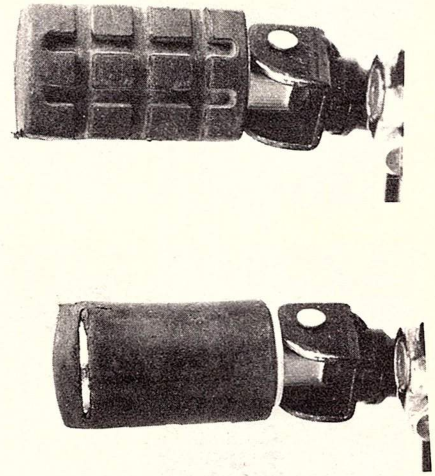
Dealers began selling the first KS-125s in mid-summer of 1974. The little enduro heralded the new KS-series styling motif. More important, the 125 became the first example of the cleaner, quieter engines planned for all Kawasaki dirt bikes. The new enduro was not burdened by the F-6's more obvious faults—excessive width, excessive weight and heavy handling.

When (and if) an 80 decibel noise level becomes law, the KS's present 81.5 dB(A)

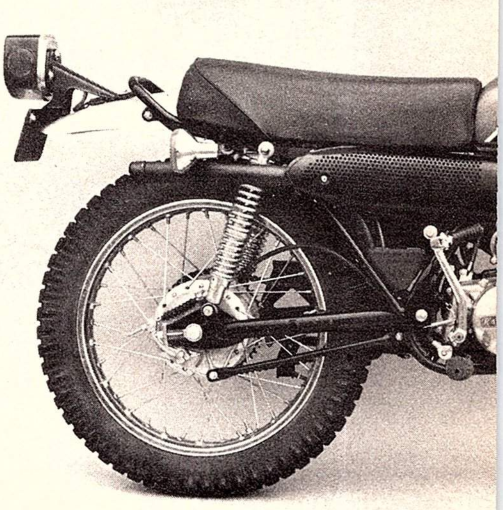

KAWASAKI



Despite a complete Mikuni carburetor behind that bulge, the engine only measures 11 inches wide.



Waffle pattern footpeg rubber, above, rotates with use and quickly wears through to bare metal, below. Pegs should be hollow cleated steel type.

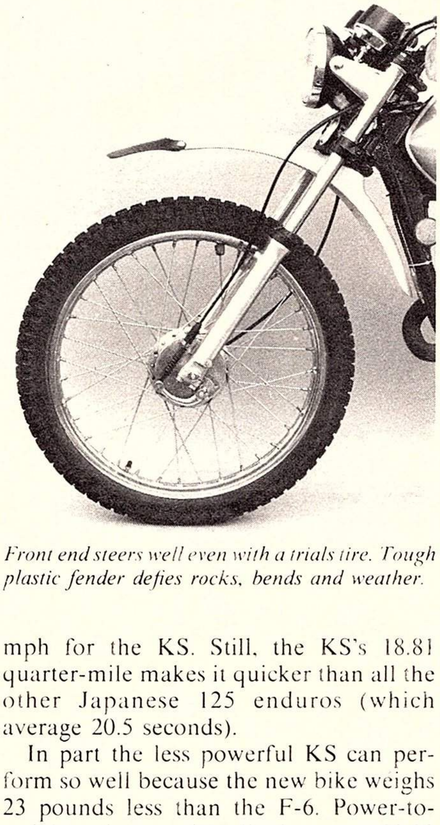


exhaust note can easily be lowered to meet the standard. Only a simple muffler modification will be required although it will result in a slight power loss. In the meantime Kawasaki is allowing buyers to enjoy the greater power of an 81.5 dB(A) engine.

Judged solely by the amount of smoke curling from the exhaust pipe, the KS "clean" engine could be considered pollution-free. Not even a whisp of smoke is visible when using Klotz synthetic oil (as specified by Kawasaki) in the injection tank. Stingy metering by the Mikuni oil injection pump undoubtedly contributes to clean running. Only half-a-quart of Klotz disappeared from the oil injection tank in 561 miles of street and dirt testing. Of course unburned hydrocarbons, not smoke *per se*, are the real pollution danger. Low unburned hydrocarbon levels are the criteria for emission standards, and we have no way of measuring them.

The old F-6 had an overweight engine that measured 14 inches across. Any decent-sized rock could knock the overhanging carburetor case right off, and many carburetors did get sideswiped. The new KS engine—20 percent lighter than the F-6—is only 11 inches wide. Any rock taking a pot shot at the KS undercarriage will only dent the skidplate. As a dirt bike engine the KS is vastly more suitable externally than was the F-6.

Internally the port and ignition timing necessary for quieter running and cleaner air presumably has nicked down the KS's peak power output. Instead of making 12 horsepower as the F-6 did, the KS produces 10.59 dyno-tested horsepower at 7000 revs. Torque peaks are closer: 8.83 pounds-feet for the F-6 and 8.46 for the KS. Drag strip figures also reveal a slight performance loss: 18.33 seconds, 67.56 mph for the F-6 vs. 18.81 seconds, 66.22 mph for the KS. Still, the KS's 18.81 quarter-mile makes it quicker than all the other Japanese 125 enduros (which average 20.5 seconds).

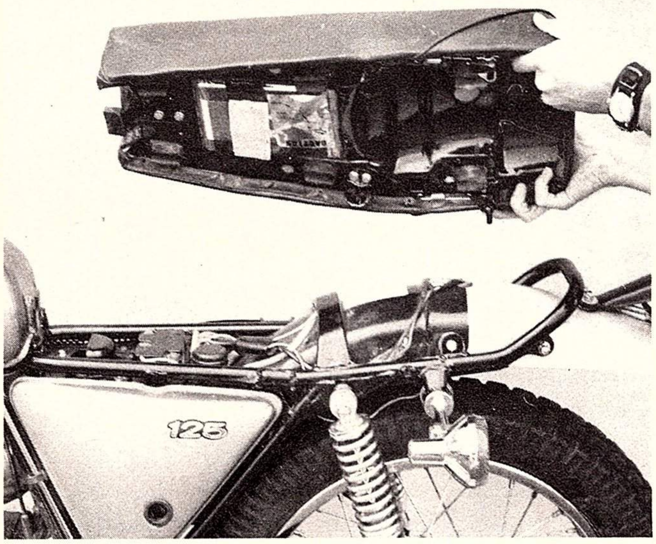


Front end steers well even with a trials tire. Tough plastic fender defies rocks, bends and weather.

In part the less powerful KS can perform so well because the new bike weighs 23 pounds less than the F-6. Power-to-weight ratios are virtually the same—22.28 (KS), 21.32 (F-6). A six-speed transmission in the KS also helps it stay close to the more powerful F-6, which had a five-speed gearbox.

Out in the field it doesn't matter what the old F-6 used to do, because the KS performs phenomenally in its own right. It cruises at 55 mph on the open highway with an unstrained exhaust note and minimal vibration. Roll on the throttle and speed increases steadily until the tach needle bumps the 8000-rpm redline and

PHOTOGRAPHY: DALE BOLLER, DAVE HOLEMAN



A completely removable seat is better than a folding seat because it provides more access. Superb design makes this one go on and off in seconds.

Taillight is big and ugly because of Federal law. All four turnsignals will unbolt in ten minutes.

speedometer reaches 70 mph. Acceleration easily matches traffic flow.

Off-road the KS has its spacious powerband and healthy torque curve to give a rider something most 125s don't have—throttle control. There is enough muscle on tap to use power to help steer, to help lift the front wheel over obstacles and to creep up a hill. Any time the tach needle hovers at 4500 revs or above the KS engine will hold its own against sand, mud and most uphills. That gives it a useable power spread of 3500 revs—great for learning. The rider can concentrate on terrain rather than shifting. The engine gets a break too since it isn't always spinning a million revs a minute. If anything really sticky looms ahead, just downshift until the tach reads anywhere above six grand and 10 ft. lbs. of torque will forge the bike forward.

Cycle's test bike spent five grueling days in rocky, sand-crusted desert hill-country laying out the famous Last Chance Enduro. The KS-125 carried a 220-pound rider everywhere a 400 Maico and 360 Yamaha went, even though the Kawasaki had stock trials universal tires. Naturally there was considerable clutch slipping and paddling on some of the nastier uphills, but it's still safe to say a good rider could win an enduro on the KS-125. With most 125s, just finishing is the main concern.

A rotary-valve single with relatively mild specifications gives the KS its punch. Air enters the side-mounted 24mm Mikuni carburetor through a huge-diameter duct running to the air box under the seat. An easily-cleaned, double-layer wet-foam air cleaner filters out dust perfectly. During five days in the desert not one dust speck penetrated the top layer of foam, let alone the critical area on the inside of the second layer.

When the rotary valve opens the intake port, pressure differentials force the mixture into the crankcase. The rotary valve closes after maximum charging of the crankcase occurs; in piston-port engines the closing timing must be symmetrical to BDC. Rotary valves have two main advantages which can lead to increased power and fuel economy. First, the intake port can be closed when circumstances are ideal. Second, positive crankcase sealing by the valve prevents any loss of charge back through the carburetor. Kawasaki's expertise with discs is reflected in the magnitude and spread of the KS torque band. That know-how also produces excellent gas mileage (35 mpg off-road and up to 40 mpg on pavement).

Mixture in the crankcase passes to the combustion chamber through two close-spaced transfers on either side of the cylinder and through one large transfer in the back. A single unbridged port directs the exhaust through the 81.5 dB(A) muffler and built-in spark arrester. Ports in the nicely cast cylinder exactly match those in the pressed-in steel liner.

The piston carries two standard steel rings and a needle bearing on its wrist pin. Full-circle flywheels, ball-bearing mains and a needle bearing big-end on the one-piece rod comprise the lower end. An output gear on the crankshaft meshes directly with the clutch hub.

One of the most impressive individual components on the KS is its rugged clutch. Any small trail bike falls victim to situations in which the revs fall off in first gear. Only unmerciful clutch slipping (usually with the engine screaming at its power peak) can maintain forward progress. The KS clutch can take such abuse without losing its adjustment and its wide friction point. A rack-and-pinion release mechanism operates five bonded friction plates (cork and bakelite), four steel plates, and five steel rings (to improve disengagement). Rubber dampers inside help reduce shock loadings on the gearbox. Light lever feel and creamy engagement aid smooth starts; conversely, complete disengagement eliminates all the tricky foot-rowing for neutral.

Gearbox ratios work beautifully on the street, but certain dirt situations reveal a slight staging problem. A wide gap between first and second gear (29:1–19:1) sometimes generates wheelspin when downshifting to first under power. And sometimes engine revs can drop too much when shifting from first to second. Also, the rather high overall ratio in first gear (29.15:1) precludes ultra-slow-speed plonking. The slowest effective bottom-end speed for off-road is about 8 mph,

Exact clutch control is necessary for trials type riding because of relatively high gearing in first.

which is faster than you might want to go in some places (like large rocks). Since these problems arise in less than two percent of all off-road situations, the standard gearing is satisfactory in general.

Gearbox action, which is controlled by a drum-and-fork shifting mechanism, isn't as foolproof as most Japanese enduros. Regardless of rider, our test bike would average a dozen missed shifts in a 100-mile ride, and the five-to-six miss proved the most frequent.

Electrics consist of a flywheel magneto with a set of points controlling spark, a lighting coil and a battery charging coil. The KS-125 is street legal in all states.

The KS has a completely new chassis. It isn't exactly nimble, primarily because the bike weighs 236 pounds. But the bike's maneuverability matches its engine performance, and thus an excellent motorcycle emerges. A tall, long frame with redesigned geometry, light wheels and improved suspension produce a big-bike feel in the KS. Nothing about its construction or ride has the spindly feeling of some other 125s.

Standard telescopic fork tubes mount in an aluminum triple crown which has double hex-head pinch bolts on the lower clamp and single bolts on the upper clamps. Stiffish springs prevent the use of all six inches of travel except on the most bone-jarring bumps. Slightly lighter springs would be satisfactory for casual trail riding and would most certainly react to small street ripples that won't budge the stock springs. For faster dirt riding, however, the well damped forks with their sturdy springs don't bottom and don't top and don't need any modification.

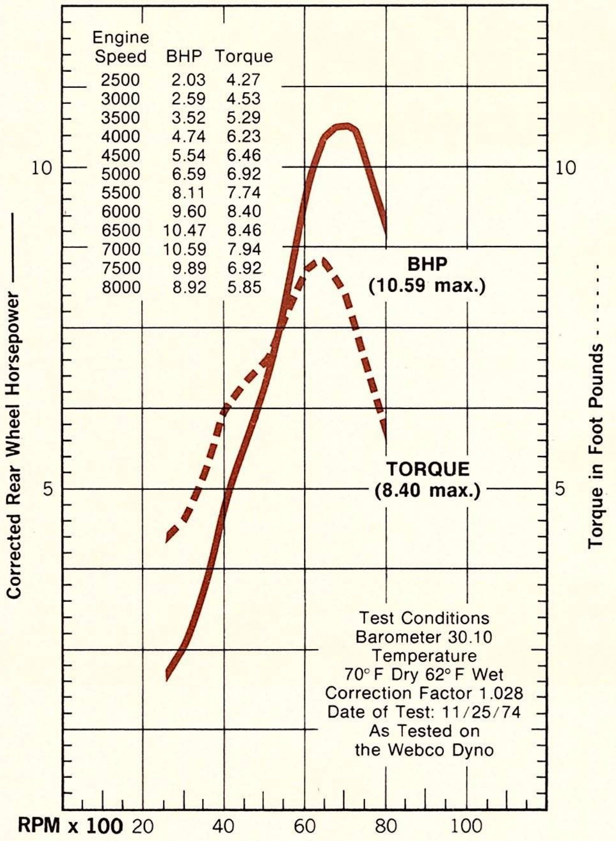
A 21-inch steel rim laces to a conical alloy front hub with 36 steel spokes in a cross-three pattern. Spoke tightening chores on the front wheel ran about 80 percent less than usual. The single leading shoe brake inside the front hub is superb.

The front wheel speedometer drive created a serious problem. Apparently the factory miscast the speedo-drive collar which caused it to misalign with the engagement ears on the wheel hub. Consequently the wheel would not spin free when bolted up. Considerable grinding finally eliminated bind between the collar and hub. In addition the odometer gained 3.5 tenths every five miles, for a seven-percent error. No one will win an enduro on the KS without a new speedometer.

In the rear another excellent brake operates inside a rubber-cushed alloy hub. Though not fully floating, the rear brake system is remarkably free of clatter and hop on rough terrain. Thirty-six spokes laced in a cross-two pattern hold the 18-inch steel rim to the hub. Again, suspension is on the stiff side in order to match the front end's springing characteristics.

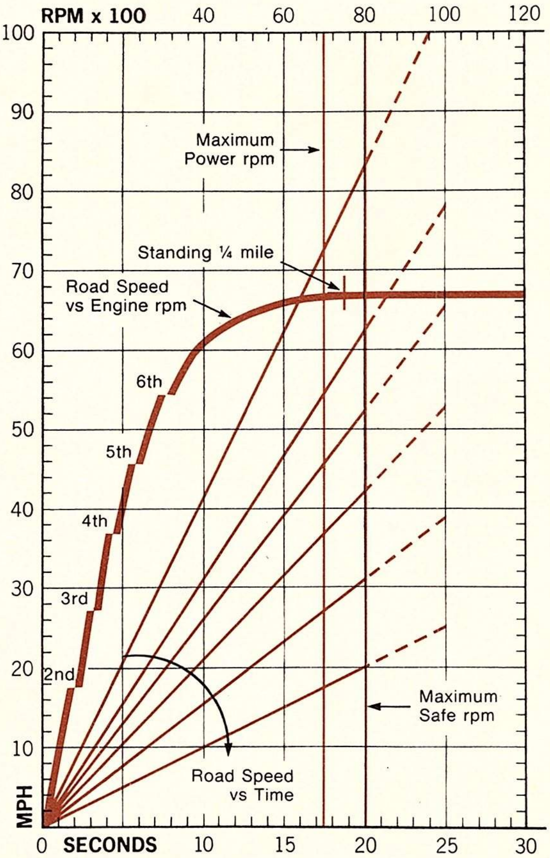
KAWASAKI KS-125 ENDURO

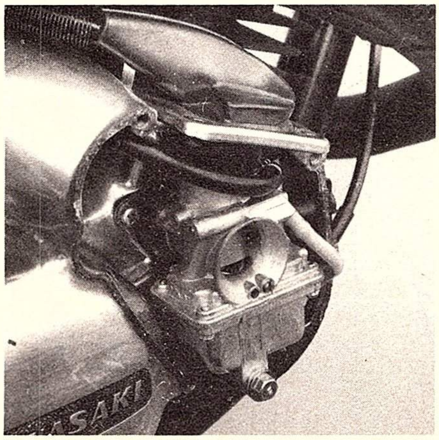
Price, suggested retail	$749
Tire, front	2.75 x 21 Nitto Trials Universal
rear	3.50 x 18 Nitto Trials Universal
Brake, front	1.10 x 5.12 in. (28 x 130mm)
rear	1.10 x 4.72 in. (28 x 120mm)
Brake swept area	34 sq. in. (219 sq. cm)
Specific brake loading	10.85 lbs./sq. in. at test weight
Engine type	Two-stroke rotary-valve single
Bore and stroke	56 x 50.6mm
Piston displacement	124cc
Compression ratio	7:1
Carburetion	1; 24mm; Mikuni
Air filtration	Oiled polyurethane foam
Ignition	Magneto
Bhp @ rpm	10.59 @ 7000; actual
Torque @ rpm	8.46 @ 6500; actual
Rake/trail	31°/5.3 in. (134mm)
Mph/1000 rpm, top gear	10.38 mph
Fuel capacity	1.9 gal. (7.4 l)
Oil capacity	1.4 qts. (1.3 l)
Transmission oil capacity	.7 qt. (.65 l)
Electrical power	40 watts @ 4000 rpm
Battery	6V, 6AH
Gear ratios, overall	(1) 29.15 (2) 18.94 (3) 14.00 (4) 11.21 (5) 9.42 (6) 7.06
Primary transmission	Spur gear 3.14:1
Secondary transmission	1/2 x 3/8 chain 14/50 3.57:1
Wheelbase	53.5 in. (136 cm)
Seat height	31.5 in. (80 cm)
Ground clearance	9.5 in. (24 cm)
Curb weight	236 lbs. (126 kg)
Test weight	396 lbs. (180 kg)
Instruments	Seiki Speedo, odometer, reset trip-meter and tachometer
Sound level (California Standard)	81.5 dB(A)
Standing start 1/4-mile	18.805 sec.; 66.22 mph
Top speed	70 mph
Average fuel consumption	35–39 mpg
Speedometer error	30 mph actual 28.94 60 mph actual 57.03



Engine Speed	BHP	Torque
2500	2.03	4.27
3000	2.59	4.53
3500	3.52	5.29
4000	4.74	6.23
4500	5.54	6.46
5000	6.59	6.92
5500	8.11	7.74
6000	9.60	8.40
6500	10.47	8.46
7000	10.59	7.94
7500	9.89	6.92
8000	8.92	5.85

Test Conditions
Barometer 30.10
Temperature
70° F Dry 62° F Wet
Correction Factor 1.028
Date of Test: 11/25/74
As Tested on
the Webco Dyno





The side mounted Mikuni has an external main jet replacement cap-bolt in the float bowl.

Our 220-pound tester rarely bottomed the shocks with the spring-preload cam on the middle position of five notches. Two separate springs on each shock deliver two-rate action. Sustained high speeds over rough ground saps damping a lot less than expected with Japanese shocks. Average riding doesn't disturb shock absorber function at all.

Several small shortcomings, a couple of minor failures and one major failure dull the KS glitter somewhat.

Shortcomings: the gas cap leaks; the footpeg rubbers rotate and quickly wear through to bare metal; the rubber plug sealing the idle adjustment access hole in the left side-cover keeps popping out, thus exposing the carburetor intake to dust; and the front wheel needs a rimlock.

Minor failures: both left turnsignals ceased to function and both instrument lights blew out twice. In each case the engine was revving at the redline in sixth gear. Vibration, combined with maximum charging output from the lighting coil, probably fractured the filaments.

Major failure: piston seizure. After 520 miles of rigorous testing, the KS suddenly tied up while bouncing up a sandwash. Since the bike had already endured so much punishment without trouble, and since the bike had been through the same sandwash several times previously, we assumed the oil pump had failed and dumped a few ounces of oil from the injection tank into the gas. The bike refired and ran another 40 tough miles back to basecamp. But the oil pump checked out positive. So the seizure could have been caused by any number of things. Foreign matter could have been sucked through the transfers. An oil failure might explain the seizure. A plugged oil line could have been responsible. Low temperatures in the desert might have thickened the oil and diminished its flow through the oil lines.

Failure in a bad motorcycle isn't too surprising. When a good bike breaks mysteriously it's probably a fluke. Don't let an isolated seizure in *Cycle's* KS-125 stop you from buying one. It's guaranteed to keep you away from lawnbowling and pinball. ◉

Audition free for 10 days Karl Böhm's superb Deutsche Grammophon recording of

Mozart's Six Greatest Symphonies

SPECIAL BONUS: Mozart's Piano Concertos Nos. 12 and 26

All 4 International Award-Winning Records For Less Than The Price Of 1!

Your Introduction To The Unique Program That Offers Free Auditions Of Prize-Winning Recordings By The Leading Concert Artists Of Our Time!

Mozart—music's greatest natural genius!
Wolfgang Amadeus Mozart — divinely gifted beyond any other musician who ever lived! And into his six greatest symphonies he poured a multitude of his most astonishingly beautiful, incredibly moving inspirations!

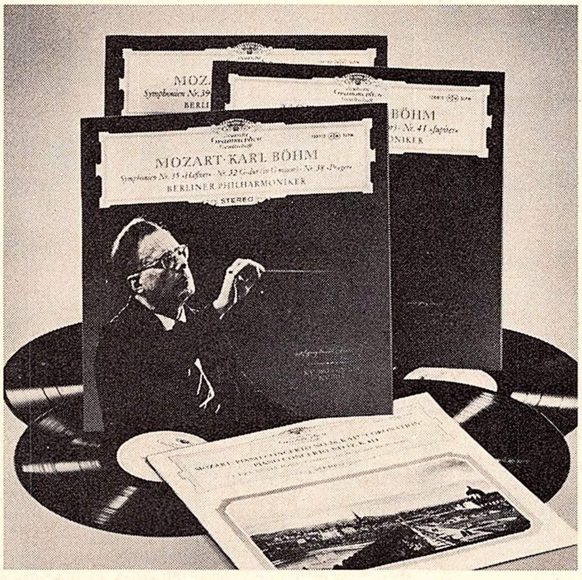
Symphony No. 41, "Jupiter"
Symphony No. 40 in G-minor
Symphony No. 39 in E-flat
Symphony No. 38, "Prague"
Symphony No. 36, "Linz"
Symphony No. 35, "Haffner"
Extra! Symphony No. 32

Now you are invited to hear these miraculous works in their finest recording . . . interpreted with extraordinary empathy by Karl Böhm . . . played to perfection by the Berlin Philharmonic Orchestra . . . captured in unsurpassed stereo realism by Deutsche Grammophon. So outstanding is this recording that it has won *three* of the music world's most eagerly sought honors: the Grand Prix International du Disque, Edison Award and Deutsche Schallplatten Prize! In addition, you will also receive Mozart's Piano Concertos Nos. 12 and 26, "Coronation," superbly performed by soloist Geza Anda with the Salzburg Camerata Academica—winner of the coveted Grand Prix des Discophiles.

Now enjoy and keep these 4 superb albums for less than the price you'd pay for 1!
Because these magnificent recordings have met with almost unprecedented acclaim, they have been chosen to introduce you to The Great Awards Collection, a totally new concept in home listening. You may enjoy all eight masterpieces, on four superb-quality, imported records, for 10 days absolutely free. Then keep all four if you wish, for only $6.98 *(that's less than the price you'd pay for just one record)!* Simply mail the coupon at right today.

Collect the world's greatest music—only in award-winning albums!
As a member of The Great Awards Collection you will receive only the finest recordings of prize-winning concert performances by top orchestras, conductors and soloists. Distinguished jurors each year select, from the hundreds of classical releases, the "golden few" that will be offered to members of The Great Awards Collection. Every month you'll enjoy free 10-day audition privileges on each award-winning single LP. Of course, you have the option of keeping or returning each one so you'll never waste a penny on disappointing purchases!

Special half-price bonus offer saves you money!
In addition to great music, you'll enjoy great savings with our half-price bonus plan. For every record you buy you may choose another one from a list of award-winners and other critically acclaimed LP's and pay just half the regular members' price! An economical way to build your library of superb classical recordings.



How many records are you committing yourself to buy when you return the attached coupon? *None at all!* Even your introductory set of *Mozart's Six Greatest Symphonies* and *Piano Concertos 12 and 26* comes to you *on approval.* Audition it free for ten days, then either return it—or keep it for only $6.98 for all four records (plus a small postage/handling charge).

Here at last is the ideal way to acquire, in easy stages, a connoisseur's record library without wasting a penny on disappointing purchases. You listen at home to every award-winning selection before deciding whether to buy it! Please act today! Begin your money-saving, no-obligation membership in The Great Awards Collection by mailing the coupon for your free trial, with four-for-less-than-the-price-of-one purchase option of this essential collection of Mozart's Six Greatest Symphonies and exquisite Piano Concertos Nos. 12 and 26.

Eight ways
The Great Awards Collection
helps you enjoy
fine music more than ever!

1. The greatest music by the world's immortal composers.
2. A major, award-winning recording each month.
3. Superior imported LP's—silent surfaces.
4. Free ten-day trials of all selections.
5. Big savings through Half-Price Bonus Plan.
6. No obligation to buy—no minimum purchase.
7. Money-saving introductory offer.
8. All selections always far less than retail price.

Send no money now—Mail coupon TODAY!

Q90

Listen for 10 days free.
Keep all 4 for less than the price of 1!

The Great Awards Collection • 175 Community Drive • Great Neck, N.Y. 11025

Please send me, for my free audition, the triple-award-winning recording of Mozart's Six Greatest Symphonies by Karl Böhm, together with Geza Anda's award-winning performance of Mozart's Piano Concertos Nos. 12 and 26. I may return the set after 10 days and owe nothing, or keep it and pay only $6.98* for all four Deutsche Grammophon records, plus a small postage/handling charge. This is all four records for less than the regular price of one!

I will also receive a free ten-day audition each month of another award-winning recording of great music. For every one of these records I buy at your members' price (always below suggested retail), I may also choose one record at half that price from your special list. I am not obligated to buy any minimum number of records. I may cancel my membership at any time.

*Sales tax added for New York residents.

NAME (please print)

ADDRESS APT. NO.

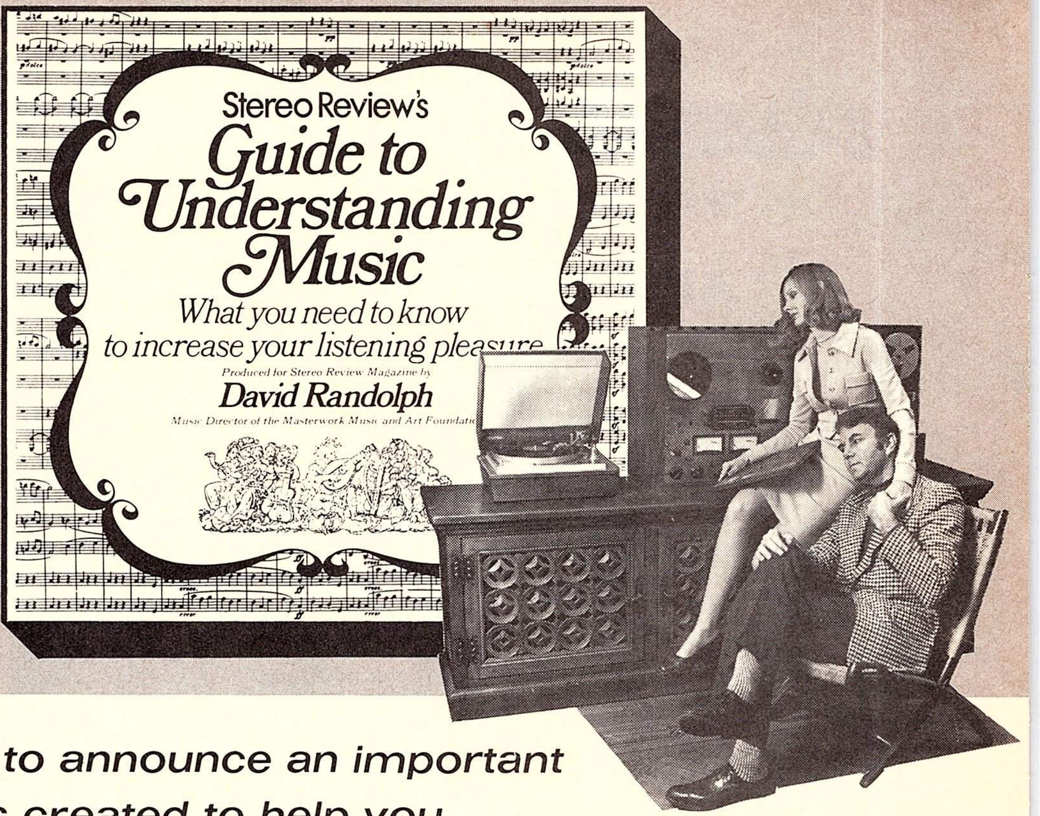
CITY STATE ZIP

Offer limited to the connecting 48 states. Offer expires 9/1/75. Limit: one membership per household. Only new members eligible. NOTE: All applications are subject to review, and we reserve the right to reject any application.

29815/Q90

NOW...

understanding more about music can be as easy as listening to your favorite recordings.


Stereo Review's
Guide to Understanding Music
What you need to know to increase your listening pleasure
Produced for Stereo Review Magazine by
David Randolph
Music Director of the Masterwork Music and Art Foundati

Stereo Review *is proud to announce an important new set of recordings created to help you expand your understanding of music.*

This unique four-disc album is interesting, easy to comprehend, and instructive. It is the first project of its kind to approach the understanding of music through its basic elements:

rhythm . . . melody . . . harmony . . . texture

If you have wanted to know more about music — or simply to *enjoy* it more — Stereo Review's GUIDE TO UNDERSTANDING MUSIC will be the most rewarding step you can take in that direction.

Written and narrated exclusively for Stereo Review by David Randolph, Music Director of the Masterwork Music and Art Foundation, this fascinating set of stereo records will help you become a more sophisticated, more knowledgeable listener — and a more completely satisfied one as well. It will give you an "ear for music" you never thought you had.

In the GUIDE TO UNDERSTANDING MUSIC, David Randolph first discusses, by means of recorded narration, how the composer uses and unifies all the basic musical elements. After each musical point is made in the narration, a musical *demonstration* of the point under discussion is provided. Thus you become a part of the creative musical process by listening, by understanding, by seeing how music's "raw materials" are employed by composers and performers to attain their highest level of expressivity and communication through *musical form*.

FOUR LONG-PLAY STEREO RECORDS

Record I — The Elements of Music
1. Rhythm 3. Harmony
2. Melody 4. Texture

Record II — Sense and Sensation in Music
(The Instruments of the Orchestra)
How Music Is Unified

Record III — Form in Music
Words and Music

Record IV — Can Music Tell a Story or Paint a Picture?
The Interpretation of Music

The GUIDE TO UNDERSTANDING MUSIC contains

OVER 200 MUSICAL EXAMPLES

which have been carefully chosen from among thousands of recordings by major record companies as the best illustrations of musical points made in the recorded narration. In addition, supplementary musical demonstrations were specially recorded for this album.

FREE BOOKLET INCLUDED

The accompanying booklet is a valuable complement to the album. It presents David Randolph's straightforward professional approach to music, and shares the insights and understanding of his many years of experience in bringing music to listeners . . . as well as advice on how you can make the best use of the album.

If you already have some knowledge of music, the *Guide to Understanding Music* can expand and enrich that knowledge. If you've always wanted to understand music but have been discouraged because it looked too difficult and time-consuming, the *Guide to Understanding Music* can show you how easily and quickly you can make yourself at home with *any* music.

First Time Ever Offered

The *Guide to Understanding Music* has been several years in the planning and production stages to assure that it would be as complete, as up-to-date, and as effective a presentation of its subject as possible. The exclusive four-disc recording is now ready, available for the first time through Stereo Review. The special low price is just $19.98, postpaid, for all four 33⅓ rpm stereo long-play records, a price made possible by the availability of the consultative and production facilities of Stereo Review and its staff. Under ordinary auspices, a work of this nature and importance would cost much more.

HERE'S HOW TO ORDER YOUR GUIDE TO UNDERSTANDING MUSIC ALBUM

CASH: Mail your order along with your name, address and remittance in the amount of $19.98. For orders of 3 albums or more deduct 10%—remit $17.98 per album ordered.

CHARGE—To your American Express or BankAmericard Account! Mail your order, name, address and credit card number. You will be billed at $19.98, postpaid ($17.98 per album, postpaid, for orders of 3 albums or more).

OUTSIDE U.S.A. ALBUMS ARE $24.98 EACH, POSTPAID. $22.48 EACH FOR ORDERS OF 3 ALBUMS OR MORE.

MAIL ALL ORDERS TO—RECORDS, ZIFF-DAVIS SERVICE DIVISION,
595 BROADWAY, NEW YORK, N.Y. 10012.

SPECIAL SCHOOL AND LIBRARY OFFER

Of particular importance is the role the GUIDE TO UNDERSTANDING MUSIC can play as a teaching tool for music departments in schools throughout the country. Orders for 3 sets or more are available to schools and libraries at the SPECIAL DISCOUNT PRICE of only $17.98 per album, a savings of 10% off the regular price of $19.98. This special quantity price is also available to individuals and organizations who may have a need for more than one album. Schools may submit orders on standard purchasing forms. Individuals and organizations are requested to follow ordering instructions on this page and enclose payment with order.

Polycarbonate and Fiberglass Make One Great, New Helmet- The Cannonball by Wheels of Man

Important advances in technology are like that. One morning it all made sense . . . put the two plastics everybody argues about together and make one great helmet, the Cannonball.

Until now there's been plenty to argue about. Fiberglass spreads shock better than polycarbonate. Polycarbonate rates ahead of Fiberglass in resistance to penetration. Together, the two plastics give you the best of both worlds. Isn't this what you want in head protection? The Cannonball safety helmet in full coverage and full face models. Your Wheels of Man dealer has 'em or send $1 for full color catalog.

Cannonball Helmets — Colors: Silver, Gold, White. Sizes: S, M, L. Full coverage and full face....................$49.95 and $59.95

CANNONBALL TEST — A specially designed cannon hurls a project 100 miles per hour — many times Z 90 requirements — and fails to penetrate the Cannonball safety helmet.

America's Finest Rider Accessories

CIRCLE NO. 32 ON READER SERVICE PAGE.

WHEELS OF MAN

subsidiary of ✝ The Parker Pen Company
16622 W. Rogers Dr., New Berlin, Wis. 53151

Three to be free.

They're here. The mighty machines.
The new 1975 V-twins from Harley-Davidson.
Those beautiful brutes that no one else builds.
The ones with that special Harley-Davidson sound that's music to your ears.
XL-1000. Electric start. And really go. And its sidekick, the kick-start XLCH-1000.
FX-1200 and FXE-1200. All the power you need.
One kick. One electric.
FLH-1200. The ultimate. Mount up and move out. You're ten feet tall. Numero Uno. And everybody knows it.
The V-twins are in. And they're at your Harley-Davidson dealer. Come on in and take a look. Talk about freedom!

AMF
Harley-Davidson

Harley-Davidson believes in safety first. Before you start out—put on your lights, your helmet—and watch out for the other guy.

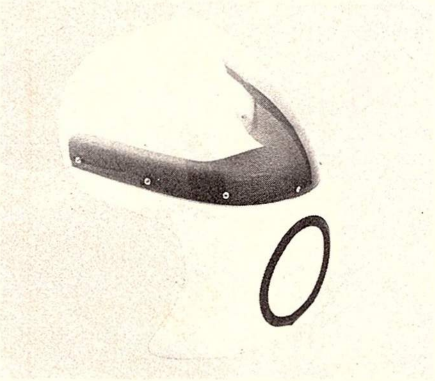
The Great American Freedom Machines.

CIRCLE NO. 26 ON READER SERVICE PAGE.

Member Motorcycle Industry Council

newsline

New Stuff, Neat Stuff

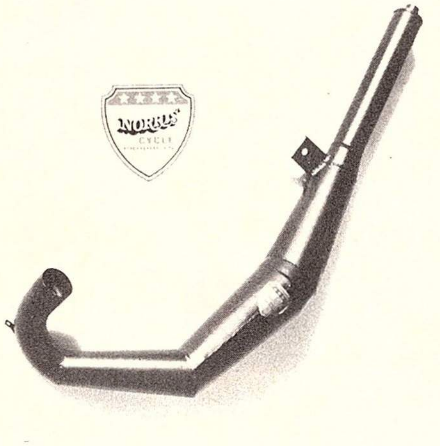


Quarter Fairing: The present popularity of quarter fairings (ala the BMW R90S) is the current fad amongst cafe racer and custom performance builders. Dick's Cycle West has an all plastic quarter fairing they say is designed and engineered geometrically perfect. It is made of light ABS type plastic and is pliable and strong. It mounts to the steering assembly to move with the handlebars and is not restrictive. It comes in either black or white and screens come in either clear or smoke tinted. Fits most popular makes. Comes complete with hardware. Suggested list is $59.95. Available from Dick's Cycle West, 420 So. San Gabriel Blvd., San Gabriel, CA. 91776.

CIRCLE NO. 1 READERS SERVICE PAGE

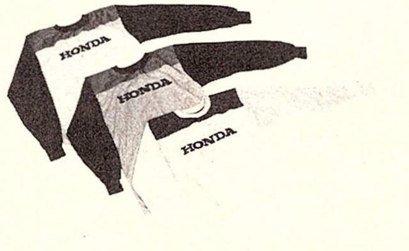
WD-40: An old friend to most every professional and weekend mechanic, WD-40 aerosol lubricant has hundreds of uses. WD-40's strong point isn't exceptional lubrication for moving parts rather it's an excellent all-around light oil for loosening sticky parts and applying a protective film. Its fine mist penetrates tightly fit parts and it contains a moisture displacer. WD-40 also works very well as a cleaning agent on aluminum, chrome or other smooth metal surfaces coated with road grime or petroleum build-up. It won't harm rubber, plastic, fabrics or painted surfaces and doesn't become sticky or gummy. A must for every garage. Suggested list for the 11 ounce can is $2.15 and the 2.75 ounce container retails for $1.25. Contact WD-40 Company, 1061 Cudahy Pl., San Diego, CA. 92110 for further information.

CIRCLE NO. 2 READERS SERVICE PAGE



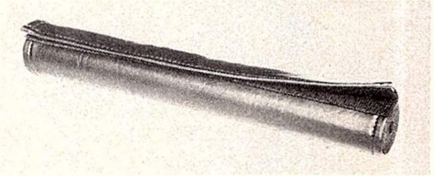
Elsinore Pipes: The vulnerable Honda Elsinore motocross expansion chambers see regular replacement because they reside unprotected under the engine. Norris Cycle Products has developed their version of a replacement chamber and silencer for both 125cc and 250cc Elsinore models. Norris claims an increase in power over a wider range with their pipe as well as a rise in torque. Made of 14 gauge steel the pipe is hand welded and finished in special heat resistant paint. Installation is said not to require any special tools. Suggested list for the pipes are $49.95 and $59.95. Available from Norris Cycle Products, 1502 N. El Camino Real, San Clemente, CA. 92672.

CIRCLE NO. 3 READERS SERVICE PAGE



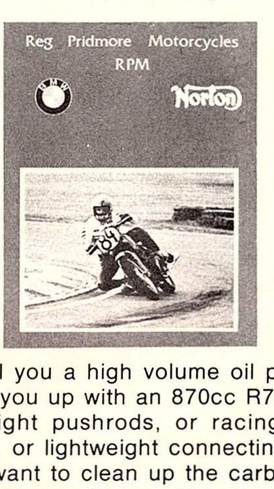
Honda MX Jerseys: The use of motocross jerseys, or jumpers, is popular as well as functional. Honda's all-nylon jumpers are similar to football jerseys. They are made of porous nylon to allow constant air flow breathing. The jerseys are highly tear resistant, light in weight, have a double layer elbow and shoulder cowls for protection. All come with the Honda logo permanently embossed in the nylon. The Honda jerseys come in various sizes for kids, juniors and adults. They also come in three color styles. Available from your Honda dealer for $8.95 to $15.95.

CIRCLE NO. 4 READERS SERVICE PAGE



Handlebar support pad: One of Ancra's most recent products is their foam padded cross bar pad to prevent serious damage from the unprotected handlebar support. Rather than using snaps or buttons, the Ancra pad has a hook and loop wrap with nylon fastening tape. Covering of the pad is vinyl with the inside made of thick foam rubber. The pad is 12 inches long and available from most dealers for $3.95. Further information can be obtained from Ancra Corporation, Suite 470, 1910 Sunset Blvd., Los Angeles, CA. 90026.

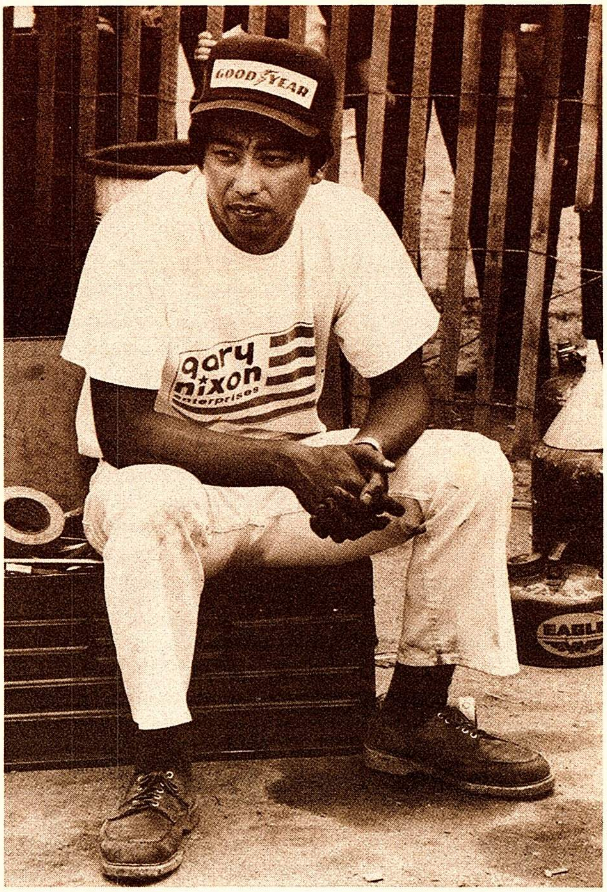
CIRCLE NO. 5 READERS SERVICE PAGE



Surely you have heard of Reg Pridmore, a contract racer for BMW and this country's most proficient big-bore Production rider. Pridmore is more than a rider, however. He is a BMW dealer, a mechanic and a shop-owner, and he offers parts and services that are of interest to owners of Nortons and BMWs. Got an R90S or an R90/6, and want some more performance? Pridmore can put the same pistons in your bike that he uses in his incredible R90S Production Racer. He can lighten your flywheel, trick out your rocker arms, free-up your mufflers and sell you a high volume oil pan. He can fix you up with an 870cc R75/5, or lightweight pushrods, or racing valve springs, or lightweight connecting rods. If you want to clean up the carburetion on your Norton, Reggo offers a complete Mikuni conversion kit, and he distributes the Boyer Bransden Transistorized Ignition System for Nortons, Triumphs and BSAs. Call him at 805-967-7660 or write to Reg Pridmore Motorcycles, 5718 F Hollister Avenue, Goleta, California 93017 and have him send you his catalogue.

CIRCLE NO. 6 READERS SERVICE PAGE

Erv Kanemoto is: Intelligent, Energetic, Charming, Quiet, Dedicated, Experienced, Modest, Loyal, Thrifty, Brave, A Good Scout, and the Best Tuner We've Ever Seen.



by Gordon Jennings

● You could call Erv Kanemoto a "tuner," but the word has been used in describing too many ordinary wrench twirlers to fit comfortably on a man of his talents and accomplishments. Watch Erv working in a track garage and you'll see what appears to be nothing more remarkable than a competent, methodical mechanic, but you know the record says he's at the very least a wizard. Still, there's no clue in what Erv seems to be doing, nothing observable in the equipment he has brought, to help explain one of racing's most intriguing phenomena; Kanemoto-prepared motorcycles consistently run faster, run longer and handle better than others of their kind. Why? There are plenty of reasons, but in the final analysis it simply is that Erv Kanemoto is a Star, and one of the nicest things about him is that everyone else will know it before he does.

Both of the two things a casual observer would notice in the exterior Kanemoto are misleading. First there's the fact that he looks Japanese, but that's merely a matter of ancestry. Erv was born in Utah, has lived all but a couple of his 32 years in San Jose, and is Californian to the core. The second thing is that he gives the impression of a glacial calm—but actually seethes with drives that have made him modestly famous if not yet rich, and have provoked an ulcer that, tellingly, becomes most troublesome during periods of off-season inactivity.

It is unfortunate that the carefully controlled expression and the obvious dedication to the world inside the combustion chamber should conceal from so many people, one of whom almost certainly is Kanemoto himself, his extraordinary personal warmth and charm. Erv allows himself almost no social life, and it's a marvel to us that people will let him get away with a monkish, reclusive existence. He does tend to be very quiet, very reserved at first contact. But the reserve quickly melts and you find yourself being captivated by a man you'd have to like even if he didn't know a thing about motorcycles; you'd like Erv Kanemoto if he was a dentist.

In his formative years Erv wasn't interested in motorcycles, or dentistry. There was a fascination with racing, but it focused mostly on boats: "I really wanted to be a boat builder. My father raced outboards and I thought they were really something." Erv smiles, remembering, and adds, "I always felt motorcycle racing was a dangerous thing."

Boat racing lost out to karting, which was where Erv made his debut as a tuner back in 1958, three years before finishing high school. Kart racing has since fallen to the status of a very minor sport, an in-group thing like lacrosse, but it was then at the height of a near-maniacal popularity. Competition was fierce and the rules allowed tuners to experiment, and learn. Erv Kanemoto did plenty of both, and credits his days in karting—where he also was conspicuously successful—with providing his basic education in two-stroke engine technology. And he thinks karting offered a scope, a freedom of mechanical expression he'd like to see in AMA-style racing:

"With the AMA you're working with so many rules! That's why I liked the go-kart thing: you could actually manufacture a cylinder, and toward the end that's what we got into. If we wanted more ports or different port angles we could just weld them up and start over. And with motorcycles the 25-minimum rule is going to help a whole lot. Making changes won't be so expensive. But what I'd like to see is total GP racing, so we could just do what we want.

"I guess the AMA sees advantages in the way they've outlined the whole rules thing. I think it's a bad situation but you can work around it. There are hassles but it's just something you have to accept. Like the first year we ran a full season, I'd go to the tech' inspection line and watch the officials. If you did that you'd notice some of them were just *looking* for things. So you stand back and watch, and you see they're checking for a certain thing in a certain area . . . and then you go back and get things right *in that area.* Things could be totally wrong otherwise, and they'd still pass the bike."

Kanemoto's creativity in dealing with two-stroke engines was what brought him to motorcycling. A friend was running a Yamaha TD-1 drag bike, and Erv got involved in doing the engine work. Experience with karts suggested that the 250 Yamaha twin's cylinder charging could be improved by carving an extra pair of transfer channels between the existing transfer ports and the intake, which is what he did, making a set of five-port TD-1C barrels before Yamaha had them. Others, including Yamaha's engineers, had tried the same thing but found no improvement in power. Kanemoto got the improvement because he reasoned that he couldn't move more air through the transfers unless it was present in the crankcase—and fiddled the intake side of the engine to make that happen, which was a bit of information he passed along to Yamaha.

Erv says he isn't sure Yamaha needed his help to make five-porting work, and that none of the people there has ever acknowledged that he may have made a contribution. But Erv was hired by Yamaha to do a two-week stint at Daytona as one of their mechanics in 1967, which was (guess what?) the year they introduced their own five-port TD-1C.

It was not until 1971 that Kanemoto made a real commitment to motorcycle racing. Erv and Walt Fulton formed a partnership that year, running a Kawasaki H1R, and it was a season marked mostly by frustration: "Something I learned with Walt in '71 is that you need plenty of parts to race. If you don't you'll have to compromise and that means you won't be around at the end. Something will break and put you out."

The following year, 1972, Erv remembers as an artistic success and a financial disaster. "That was when I was with a Junior, Jerry Green. We won four Nationals, yet it wasn't a profitable year. I had to supplement my privateer income by modifying cylinders for other people, doing things like that."

If the season with Jerry Green failed to be rewarding in terms of money, it was not without other benefits. Green's Kanemoto-Kawasaki was easily the fastest, most reliable machine in the Junior ranks, and it attracted the attention of the powers-that-were on Team Green Meanie, leading to an interesting opportunity:

"For 1973 Kawasaki offered me a bike and expenses, and asked me to pick my own rider. So I decided, well, I'll give it one more year, and at the end of the year if I couldn't make it, I just wanted to feel that I'd given it 100-percent. Knowing that I had would have eased my mind and if it hadn't worked I think I could have walked away from it.

"You want to catch problems while they're developing. After something's broken you can't tell what went first."

"Anyway, after being around racing the prior year with Jerry Green I felt that I knew who could do a good job. A lot of this motorcycle thing is being a kind of talent scout, you know. And I wanted Gary Nixon. Gary had some bum breaks, but I felt he could still win quite a few races. Plus there was personality: I really like being around Gary. He has a quick wit and whatnot, and I really enjoy being around him. And right now I feel that I owe him a lot for, well, my success I guess you could call it, and financially it was a good year for me.

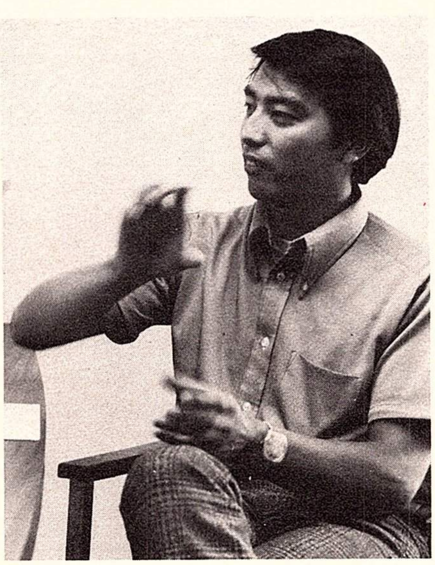
"Racers are different from people who work normal eight-to-five jobs, for sure, and . . . well, Gary has a way about him. But racing is a business, and away from the track you don't have to live with the rider; you're not married to him. He does his job, you do yours and that's all you ask. That's one thing I respect about Gary: he puts out 100 percent on the track. I have noticed that when he's not riding he's a totally different person than when we're racing. You know, when we first tied in together he said, 'Anytime you see me doing anything you think may be hurting the cause, you mention it.' But I feel like, why should I mention it to him? He's a professional; I'm not his keeper.

"One of my biggest worries is making a mistake that would cause somebody to get hurt. You see it every day: people get hurt because of a mistake. I think it happens because you put in long hours at the races and when you do have problems there's just a short time to get running. When you have to hurry you do make mistakes, and that really is one of my biggest fears. I really don't know if I could cope with it if a problem was to arise from a mistake I made and somebody got hurt from it. That's one reason I spend so much time working, and why I usually am at the track late. Not so much this year, but I did last year when we were having problems. You try to eliminate the possibilities of problems, but. . . ."

With that, Kanemoto's voice trails away and it is obvious that he is genuinely haunted by the lethal potential of motorcycles moving as fast as he can make them go. There's a long silence, and it asks questions for which there may be no answers, so we change the subject to inquire into other things, like how many hours does a dedicated tuner give his craft? That question gets a laugh.

"That's something I was thinking about a while back. I get six, maybe seven hours sleep, and the rest of it goes into the effort. Usually I do the real work late at night, because during the day people are in and out and I'm on the phone or something. But usually I can get in a good six hours

"I didn't think it would work because the standard frames just don't tie things together."



a day actually working on the motorcycle. It's not as much time as I'd like; it just seems to be all the time there is.

"I'm working at home, in the garage. Living at home was the only thing I could afford there for a while, but it probably is just as well. You put in all the hours it takes, and all you need is someplace to sleep. It really makes you wonder: you sometimes feel like you're missing out on a lot in life. Looking at it from somebody else's standpoint it's a boring life, but I really enjoy it, and it's a challenge for me. I guess the reason I'm still in it is because I'm still learning. It's that, and ego. I'm sure that all tuners have an ego problem, and I think that's the thing that drives you: just wanting to be better than anyone else. Sometimes you have to wonder if you're really sane.

"You can't be too egotistical. One thing I've noticed in racing is that every time you feel that you understand something, something will happen that's totally 180-degrees from what you believed. And it will make you feel really dumb. I've felt I had a good understanding of engines, a good basic idea of things that work and things that don't, and then something would happen and make me feel totally unaware of what's going on. And you really have to have an open mind to do well in this game. Everyone has set ideas on the way things should be built, but you have to be smart enough to realize that you don't have all the answers. That's one thing I pride myself on: I make mistakes like everyone else, but I try to see my mistakes and not make them a second time. I think that's the difference between smart and dumb.

"Riders can fool themselves. Gary's a great rider, but we were having problems with shocks last year. He felt they were wearing out after half a race. We were working with Boge and they made us special shocks, rebuildable ones, which was different from the standard Boges at that time. So I'd take those shocks apart and check them and find that there wasn't any wear or any difference from a brand new one. After a couple of races I thought, well, I'd test Gary. I took the old ones he felt were worn out at the race before, cleaned them up to look new, and put them on at the next race. And Gary came in and said, 'Boy you just can't believe what a fresh pair of shocks will do for the handling!' You have to be aware of these things and if something will make a rider happy and make him put out 100-percent, well that's what you do.

"Gary has some set ideas about tires. I felt last year we could make the Goodyears work and he didn't. They were building the tires for something like a four-inch rim, yet the only rims available were some of these three-point-fives. At a Goodyear test session at Charlotte they kept bringing out these tires, big bike tires and Yamaha 350 tires, and after mounting up the tires they were supplying us it was obvious that there was no possible way you could use all the tire. So we talked to a tire engineer there, and got a 3.50-18 tire they brought for Kenny which was supposed to be mounted on a WM3 rim—and that's pretty narrow—and we put it on our 3.5-inch rim and Gary went out and lapped as quick . . . I'd say quicker . . . than what we ran on the Dunlop. But Gary wasn't convinced and I guess it was just that rider style means a lot; the way a rider reacts to the way a tire makes a bike handle. And with Gary, no matter what the lap times say, if he isn't confident with a tire then it's wrong, and confidence is everything.

"I'm the same way. Like at Daytona this year Suzuki wanted us to use DID chain and we'd been using Renolds, and I had complete confidence that with proper adjustment and whatnot we could finish any race. But Suzuki said DID chain had come a long way, that they'd put quite a few miles on it and felt it was a good chain. I was kind of reluctant but they assured me there wouldn't be any problem and there wasn't. But I hate to go with anything that isn't proven. You do feel you have a little bit at stake once you put a bike in the race.

"You try to prove parts by testing. It's just a matter of running, and trying to figure out what might break. You want to be aware of what's wearing and catch problems while they're developing. That's the only way. After something's broken, a lot of times you can't tell what went first. That's the only way, and that's why it's so time-consuming: you have to develop the problems slowly and find ways to correct them, which makes it hard when you have something totally new. There's no witchcraft or anything; it's just a matter of finding the problems.

"Like this year we ran the Suzuki for a 200-mile test to see what would break. Basically it was the same bike as last year, but a different combination. So we ran the tests and had some tire problems and I set up the bike on the basis of what we learned testing. There's not a lot of engineering behind any of it; it's just common sense—a practical thing.

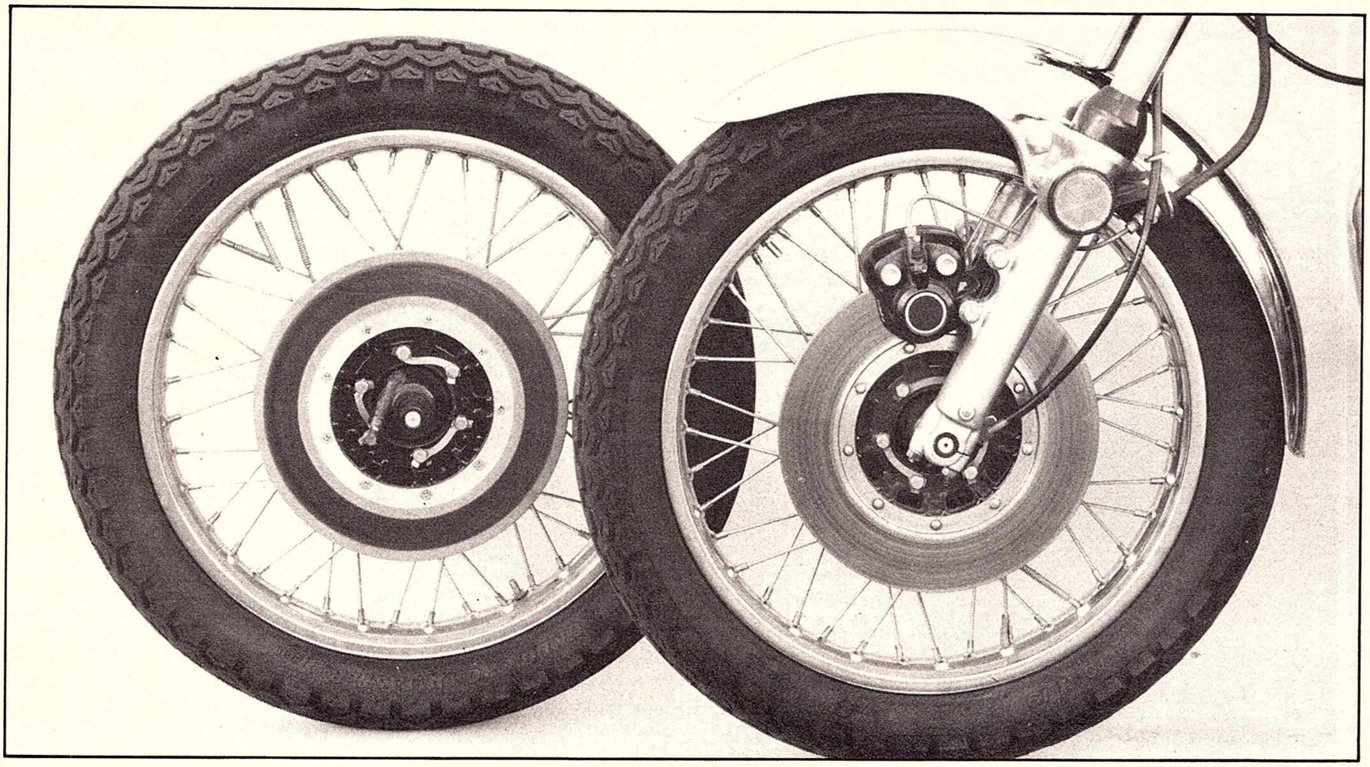
"Gary and I took this deal with Suzuki because Kawasaki was cutting back. I guess all the companies were hit pretty hard by the energy crisis, even here in the United States. But it was so late in the year, practically at the beginning of the next season, and we had expected to be with Kawasaki. I have no hard feelings or anything; they had their problems. We were really thankful to Suzuki for picking us up, because otherwise we'd have had to drop right out of racing. It's just about impossible to make it right now as a complete independent; you have to have a sponsor. There's just no way you can afford the parts.

"When I started with Suzuki this year I tried to treat my work like a real profession. I kind of outlined everything I thought would have to be done and I started by stripping a complete motorcycle

(Continued on page 94)

"It was a fireman who pointed that out to me, and I should have seen it myself."

PHOTOGRAPHY: DALE BOLLER



PHOTOGRAPHY: DALE BOLLER

Product Evaluation

HUNT'S METAL-SPRAYED ALUMINUM DISCS

Available for the bigger Hondas, Suzukis, Kawasakis and Yamahas and anything else if you've got the dough, the plasma-sprayed alloy disc rotors are about 67% lighter than the stock components. Expensive? Yes. Effective? Completely.

by Cook Neilson

● The world of performance-improving after-market motorcycle accessories can be divided roughly into four groups. The first group is characterized by items that imply performance improvements, and affect performance not at all—like certain transistorized ignition systems that come with fancy finned covers and make no discernable impact on mileage, engine speed, spark plug life or starting ease. The second group of items likewise implies performance gains, and delivers performance that is in fact worse than stock. The third group promises *and* delivers, but imposes penalties in other areas—like a competition grind cam shaft that raises peak power and wears out followers and guides, or a collector exhaust system that steals ground clearance and jacks up the decibel level. The fourth group delivers precisely what it promises—improved performance—without demanding any sacrifices whatsoever. As you might expect membership in the fourth group is sparse, for a number of reasons. Items that qualify are extraordinarily well-engineered and thoroughly tested; engineering and testing are two characteristics that do not exactly run rampant through the motorcycle after-market business. Too, such items tend to be subtle, and as a consequence have little appeal for most motorcyclists. And because fourth-group items are both well-engineered *and* subtle, they tend to be expensive—which cuts the potential market, and therefore the size of field, even more.

Harry Hunt's aluminum discs are definitive fourth-group accessories. They deliver exactly what they purport to deliver: a substantial reduction in front end unsprung weight. They demand no sacrifices and impose no penalties in other areas, other than an initial and almost undetectable increase in brake pad wear. The amount of developmental time and money expended on their behalf by both Hunt and Plasma Technology, Inc. has been enormous. Compared to custom exhaust systems or cafe racer bikini fairings the metal-sprayed aluminum discs are subtle enough to be practically anonymous; they will not visually transform your bike into the King Streak of Racer Road. And finally, because they cannot as yet be mass-produced and because quality is at once difficult and imperative, the discs seem expensive.

Cycle's initial exposure to metal-sprayed aluminum discs came in the Spring of 1968. Technical Editor Jess Thomas had been a Harley-Davidson engineer before joining the staff of *Cycle,* and had participated there in the development of disc rear brakes for the H-D factory road racers. He had done some work with metallic-sprayed aluminum discs, but problems both coincidental and genuine had put an end to the aluminum project. When Jess came to work for *Cycle* he brought with him one of the final versions of the aluminum disc, and it was subsequently installed on the rear of the Associate Editor's fuel dragster. The disc performed well, but since it had to function only three or four times per afternoon no conclusions could be drawn about its long-range suitability or reliability.

Our second exposure came in the late Summer of 1973, when the Team Kawasakis arrived at the Laguna Seca Road Race National equipped with factory-built, metal-sprayed aluminum discs. Intermittent contact with Kawasaki mechanics for the remainder of that season and throughout the 1974 season indicated that the aluminum discs were holding up satisfactorily and were giving no significant trouble.

In 1973 the Editor began indulging himself in local Production road races. The motorcycle used for such foolishness had been equipped originally with a single cast iron disc. In an attempt to reduce lever pressure and increase braking force the bike was fitted with a pair of discs and calipers, and while lever pressure went down, unsprung weight increased to such an extent as to become intrusive in certain kinds of bumpy corners. The problem was alleviated to a limited extent by having the discs drilled (at an expense of $100), but chattering, and uncomfortably high shock loadings coming through the fork legs, persisted.

The Editor ran across Harry Hunt at a race early in 1974, and the problem was mentioned. Hunt suggested a pair of his then-new metal-sprayed aluminum discs as a possible cure. The discs were duly manufactured and installed, and after six races with them the Editor was willing to say that the substitution of the aluminum discs in place of the stock components was the most successful alteration he had undertaken on any motorcycle he had ever owned. Brake "feel" historically has been better with cast iron discs than with stainless steel discs; the aluminum rotors supplied by Hunt were a match for the cast iron discs in terms of "feel," and unsprung weight was reduced by 6¾ lbs.

Without getting into a maze of algebra, less unsprung weight is better than more. The purpose of including a suspension system on any kind of vehicle is to shield the vehicle from road surface irregularities, and to keep the tires in contact with the surface. Approaching an explanation with utmost crudity, if the ratio in a motorcycle between sprung and unsprung masses were 5-1, an instantaneous encounter with a five-inch bump would result in a one-inch rise at the handlebar. If the ratio were 10-1 (a 50% reduction in unsprung weight), the same five-inch bump would cause a half-inch rise at the handlebar. As a corollary, with a 5-1 ratio the unsprung masses will rebound from a bump five times as fast as the sprung masses; with a 10-1 ratio, ten times as fast. All else being equal, then, a light unsprung mass will follow road irregularities better than a heavy unsprung mass.

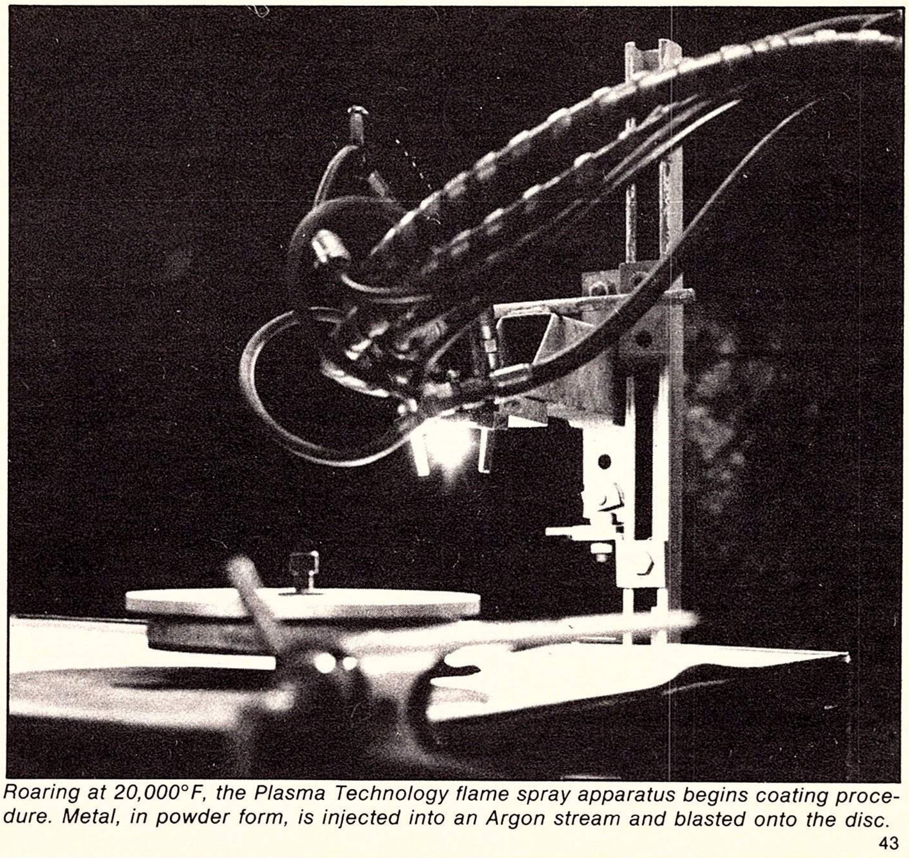
Which explains, admittedly simplistically, why road racers like single-ply tires, aluminum disc brake rotors, drilled axles and alloy calipers: tires do their best work when they are in contact with the road—especially in cornering situations.

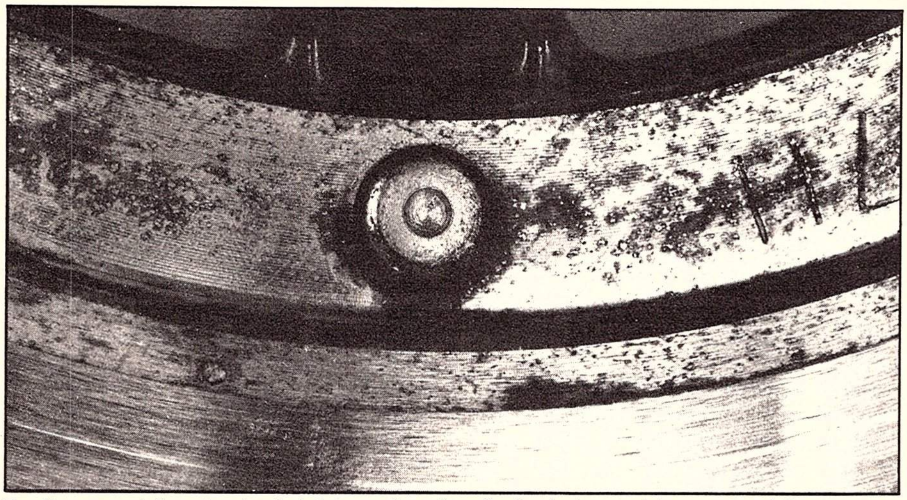
The same holds true on the street. Reduce the weight of a motorcycle's unsprung components and the suspension system works with greater accuracy, and can do a better job of reacting to surface irregularities.

All Japanese motorcycles equipped with disc front brakes use stainless steel rotors. Although stainless steel is not the finest material for the job (it does not radiate heat as well as cast iron, and its coefficient of friction, generally speaking, is likewise inferior), it has a couple of things going for it: it can be machined easily and accurately, it behaves itself in lousy weather and it does the job. But it *is* heavy. If a lightweight material could be developed that matched or exceeded stainless steel or cast iron for wear, resistance to corrosion and coefficient of friction, then a significant reduction in unsprung weight could be realized.

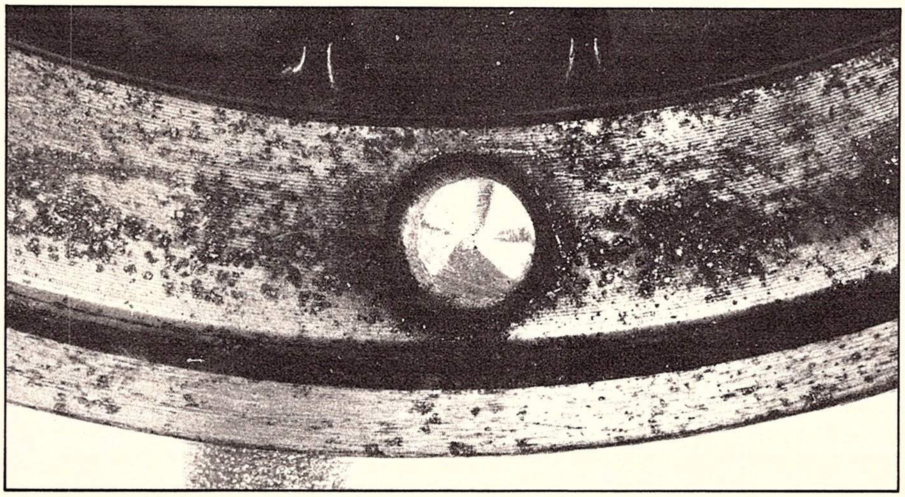
For Harry Hunt and Plasma Technology the search for such a material or materials has been arduous, expensive—and successful. The discs begin to take shape in Hunt's San Bruno, California facility, where they are whittled into rough form from sawcut squares of 7075-T6-51 aluminum (the 51 suffix indicates that the alloy has been stress-relieved). From there they are shipped to Plasma Technology, Inc., where they are metal-sprayed. The spraying is necessary because aluminum is simply too soft to function as a disc brake material. It has been tried, of course, but localized melting, or galling, invariably results.

Plasma Technology was founded five years ago to service the aerospace and air transport industries. At bottom the company engages in improving the surface qualities of different components in the areas of wear, corrosion and high-temperature oxidation. The process used by Plasma Technology is called, "flame spraying" and describes any process whereby a material is brought to its melting point and sprayed onto a surface to produce a coating. If an inert gas, like argon, is subjected to extraordinarily high energy, like that produced by an electric arc, it is broken down to its ionic form. In such a form it is called a Plasma gas. The energy required for such ionization results in temperatures of 10,000 to 20,000 degrees F. Into this stream of super-heated and high-pressure gas is

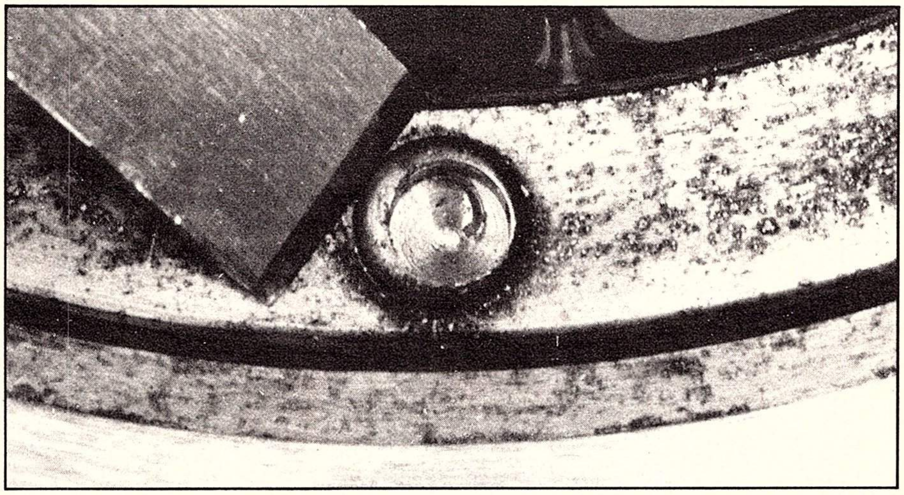

Roaring at 20,000°F, the Plasma Technology flame spray apparatus begins coating procedure. Metal, in powder form, is injected into an Argon stream and blasted onto the disc.



To disconnect the standard stainless disc, the disc's rivets must be center-drilled. . . .



. . . and then drilled down to the level of the carrier, but not below, with a ¼-in. bit . . .



and finally whacked with a chisel and a hammer. After head comes off, drift rivet out.

injected metal in powder form, which is instantly melted and blasted onto the surface of the base material, forming a mechanical bond. Any number of metallic materials can be successfully sprayed, among them aluminum oxide, chromium, cobalt, tungsten, nickel, molybdenum, titanium oxide, vanadium carbides, etc.

There are several metal spraying processes, including Metallizing and ThermoSpray. Plasma Flame spraying is one of the processes, and is generally held to be superior in terms of reduced porosity, improved bond and tensile strength.

Both Harry Hunt and Plasma Technology hold close several important specifics. They are reserved in discussing means by which disc warpage during the spraying process is avoided, and Plasma Technology absolutely will not reveal the composition of the metal powder used to coat Hunt's discs. All they will say is that the powder is a member of the "cermet" category, meaning that the powder displays some of the characteristics of metal, some of the characteristics of a ceramic, and seems to be particularly resistant to heat-cracking.

After the uncoated disc rotors are received from Hunt they are grit-blasted with aluminum oxide to both clean them and create a surface finish conducive to good bonding. They are then placed on a record-player-type turntable and the plasma spray gun blazes away, applying the coating in layers .0005" thick until a build-up of .007"-.010" is reached. The discs are then treated with an Alodyne sealant for corrosion resistance and sent to B&W Precision, Inc. in Glendale, Calif. for finish grinding. The finishing process used is called "SpeedFaming," and is actually more a lapping process than a grinding process. From there the discs return to Harry Hunt for final inspection, packaging and shipping.

As of now the discs are available for the Honda 750, 550 and 500, the Kawasaki 903, 750 and 500, the Yamaha 650, 350 and TZ-700 and the Suzuki 750 water-cooled. Since there are several Kawasaki Z-1s that live at the *Cycle* shop we ordered up an aluminum disc for a 903. Dimensionally, the aluminum disc coincides exactly with the standard disc. Installation is simple and straightforward. The front wheel must be removed, and then the stock disc and carrier must be separated from the wheel. Unlike Yamaha, Kawasaki, Honda and Suzuki rivet their disc to the aluminum carrier. To separate the disc from the carrier the rivets must be centerpunched, then center-drilled, then drilled with a quarter-inch bit down to, but not through, the level of the disc. After that, a couple of healthy whacks at the rivet-head with hammer and chisel severs it clean, and the rivet can be removed with a slender drift and a few taps of the hammer.

New fasteners are supplied by Hunt with the aluminum disc. Harry has a preference for American aerospace fasteners;

the best and most practical ones he has been able to find thus far are quarter-inch, so (at least on the Kawasakis) the holes in the disc carrier must be opened with a quarter-inch drill. That accomplished, the new disc bolts to the standard carrier perfectly. Reinstall the disc and carrier on the wheel, replace the brake pads if they exhibit excessive wear, and bolt the wheel in place. It's finished—and it's easy. There are alternatives to drilling out the rivets, of course. They can be removed by grinding, or they can be machined off on a lathe. But drilling works as well as anything, and, if you have a center punch and a hand drill, it's free.

Thus far the plasma-sprayed aluminum discs seem to be compatible with all kinds of pad material except for that found in early-model Yamaha 350 twins. It is compatible with standard Z-1 pads, in both street and racing applications. California Production racer Pat Beacom installed a pair of Hunt discs on his Z-1 prior to an AFM 150-mile Production race early in November and commented, "Brake feel is much better than it was with the stock stainless set-up—the brakes are always *there,* no matter how hard you use them or how often. They're unquestionably better than stock."

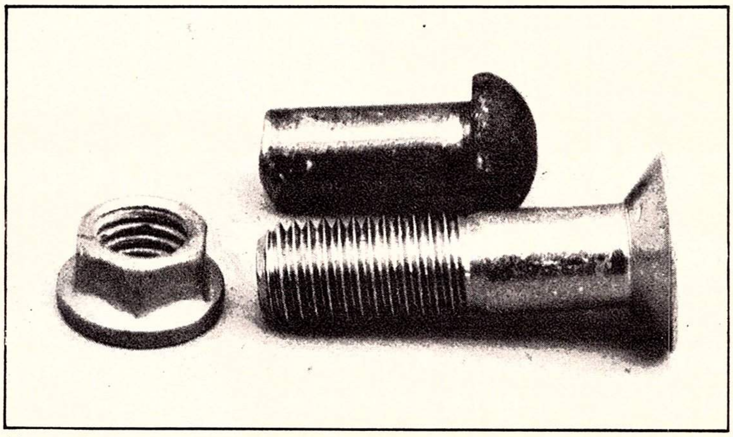
Not to mention unquestionably lighter. A stock Z-1 stainless steel rotor weighs 5¼ lbs. A Hunt disc weighs 1¾ lbs, or 67% less than stock. Replace a stock stainless single disc with a pair of aluminum discs and an additional caliper, and unsprung weight remains virtually the same. Replace a pair of stock discs with a pair of Hunt discs and unsprung front-end weight is reduced by a cool seven pounds—not to mention overall vehicle weight, which is also reduced by the same seven pounds.

If new brake pads are called for when the aluminum disc is installed, as they were when we performed our disc switch, it should be noted that the pads are not perfectly flat-faced. They are in fact crowned, and until the new pads begin to accommodate themselves to the working surface of the sprayed alloy disc, brake lever pressure will be somewhat higher than it was with the stock stainless disc. We noticed too that the coefficient of friction between the pads and the disc improves significantly as the temperature of the disc increases.

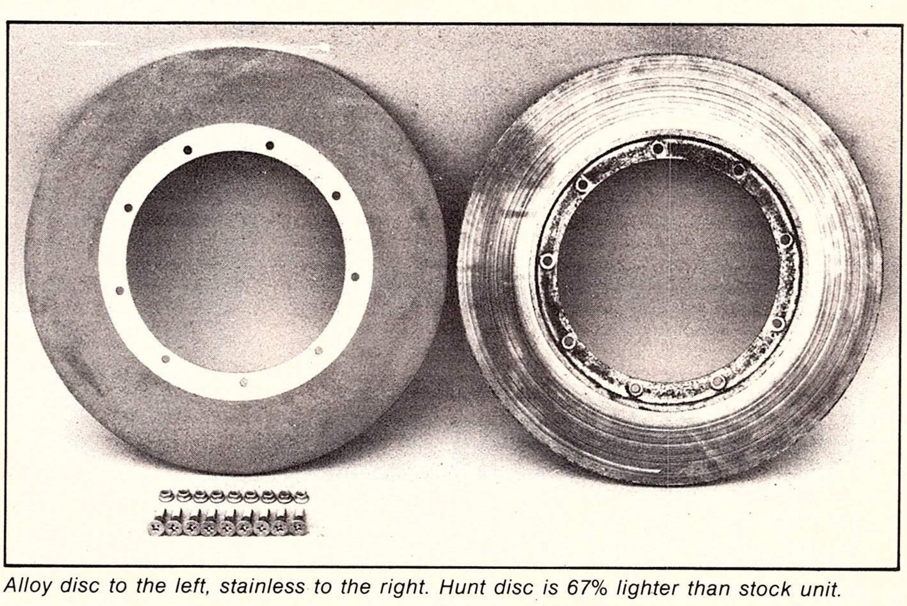
The discs that Hunt carries in stock, as you may suspect, are not cheap: $75.00 each, fasteners included. But compared to the cost of other weight-removing procedures, like thinning or drilling, they are not out of line. A high-precision thinning operation may run as high as $40 to $60 (if you can find somebody to do it for you), and working-surface drilling and chamfering can cost slightly more. Besides, the aluminum disc is going to be significantly lighter than a thinned or drilled disc—and a reduction in unsprung weight is what you were after in the first place. Hunt can also provide custom-made, one-piece rotors. He'll need a standard rotor to duplicate for dimension and as much as $125–$150 depending on the difficulties encountered in the machining operation.

Cycle has a lot of confidence in Hunt plasma-sprayed aluminum discs, based on our own street and competition experiences with them, and reinforced by the comments of others who have installed them. Our production racer's alloy discs exhibit no measureable wear after the better part of a season's competition, and the disc on the front of the Kawasaki Z-1 likewise gives no indication of distress. We have no experience with the discs' longevity under rainy, dusty or salty conditions, but a disc installed on a Yamaha RD-350 in the San Francisco area has been in service for 6000 miles under a variety of weather conditions and shows no ill effects. We suspect that brake pad wear might be slightly higher initially with the aluminum disc than with a comparable cast iron or stainless disc, but as the disc work-hardens and develops a smoother surface, pad wear rate should stabilize at the cast iron-stainless level. Once safely in place between the fork legs, the plasma-sprayed surface seems impervious to wear and abuse, but care must be taken with installation to avoid the possiblity of chipping. Tough the surface is. Brittle it also is, and it *can* chip if you whack it with a screwdriver or drop it.

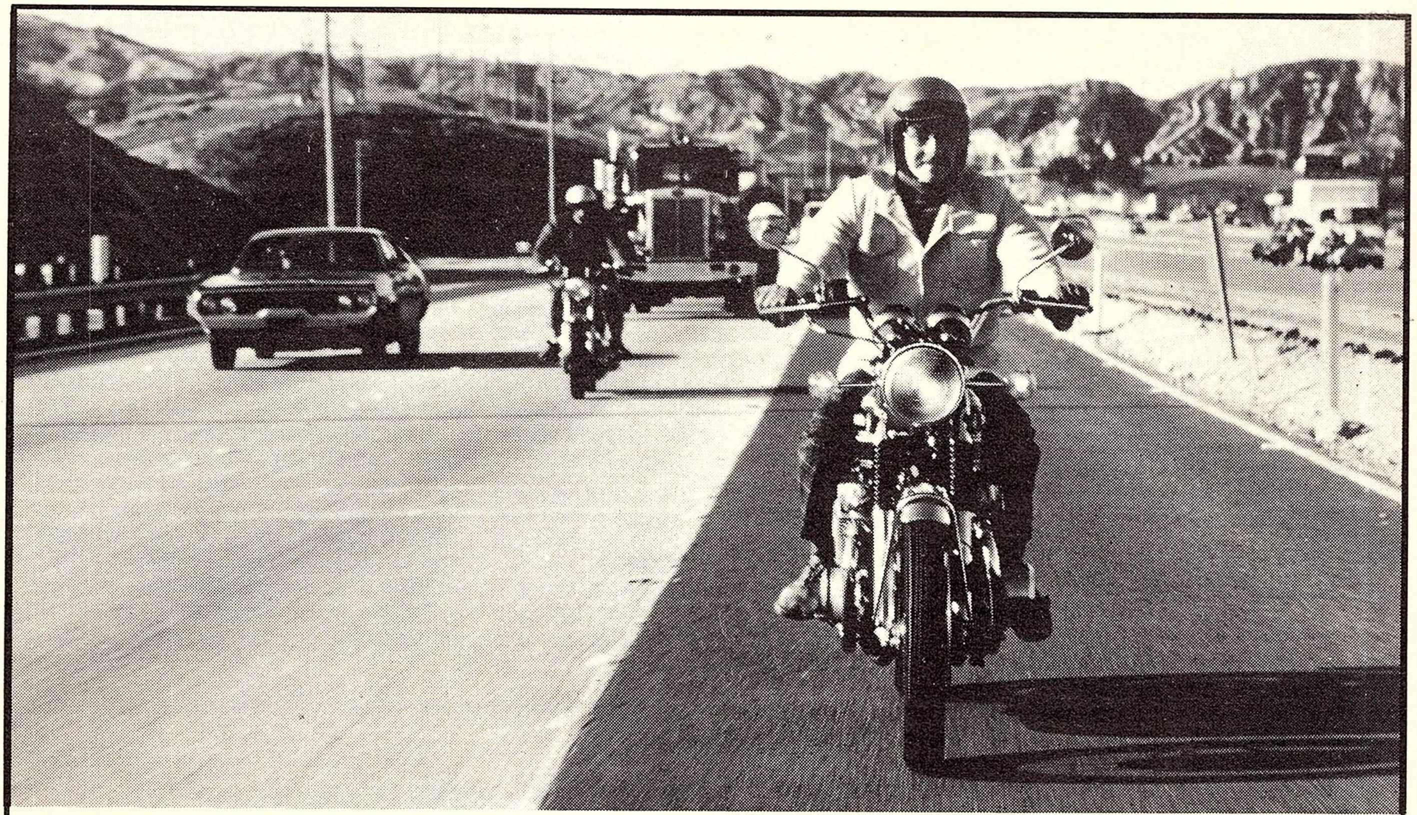
Progress will continue with the plasma-spray process, and Hunt is considering forging the disc blanks instead of machining them out of plate. But at their current development level the aluminum discs are honest, effective, straightforward, easy to install and durable. We think they are among the absolute finest aftermarket motorcycle products available, and we endorse them completely. Harry Hunt can be reached by writing to him at 23 San Bruno Avenue, Brisbane, California 94005 or calling 415-468-2840. ◉



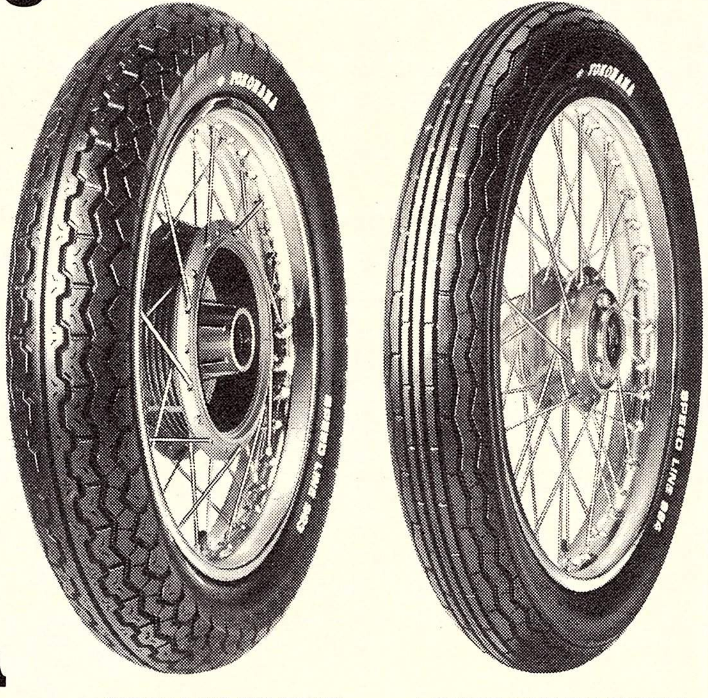
Hunt selects aerospace fasteners to connect disc to the stock aluminum carrier. With the Z-1, carrier holes must be drilled with ¼-in. bit.



Alloy disc to the left, stainless to the right. Hunt disc is 67% lighter than stock unit.



Refreshing High-Speed Touring "Speed Line 983"



Speed Line 983 has superb road holding, steering and braking capabilities backed up by the technology of our racing-tire development experiences.

It features an extra low profile 80 percent aspect ratio, special nylon cords and high-grip compounds, they assure stability when driving at high speed on freeways and highways.

Approved by the American Motorcycle Association

★ SPEED LINE 983 (REAR)
AVAILABLE: 410H18, 460H18, 410H19

★ SPEED LINE 984 (FRONT)
AVAILABLE: 360H19, 410H19

YOKOHAMA

THE YOKOHAMA RUBBER CO.,LTD.
LOS ANGELES REPRESENTATIVE OFFICE

C.P.O. Box: 1842. TOKYO. 100-91. JAPAN Telex: YOKORUCO J24673
Cable Address: "YOKORUCO" TOKYO Telephone: Tokyo 432-7111
1530 Church Road Montebello Calif. 90640 Telephone: (213) 723-9691

DISTRIBUTORS:

ACCESSORY DISTRIBUTORS, INC.
175. FAIR ST., PALISADES PARK. N.J. 07650

ANDERSON-KITTELSON DISTRIBUTORS, INC.
9120 GRAND AVE., SOUTH MINNEAPOLIS. MINN. 55420

HAP JONES DISTRIBUTING COMPANY
2 CLINTON PARK. SAN FRANCISCO. CALIF. 94119

HAWAII CYCLE SUPPLY, INC.
973. COOKE ST., HONOLULU. HAWAII 96813

K.K. MOTORCYCLE SUPPLY
431 EAST 3RD ST., DAYTON. OHIO 45402

NICHOLS MOTORCYCLE SUPPLY INC.
4135 WEST. 126TH ST., CHICAGO (ALSIP). ILL. 60658

RACERS WAREHOUSE, INC.
5505 ENTERPRISE BLVD., TOLEDO. OHIO 43612

SELF CYCLE & MARINE DISTRIBUTORS
516 JEFFERSON BLVD., TARRANT. ALA. 35217

SUDCO SOUTH INC.
1376 SALFORD DRIVE. HOUSTON. TEX. 77008

SUDCO INTERNATIONAL CORPORATION
1824 E. 22ND ST., LOS ANGELES. CALIF. 90058

WHEELSPORT DISTRIBUTING CO.
2053 N. W. UPSHUR PORTLAND. OREG. 97209

NICAN TRADING COMPANY LIMITED
B.C., CANADA

CIRCLE NO. 33 ON READER SERVICE PAGE.

HONDA CB-500T

The 500T has Japanese engineering, British baroque styling, and Detroit-City packaging. Did the CB-450 really need all that?

● The CB-450 landed in America in 1965; it has endured, earning its ten-year campaign pin. That's a hard thing to do, because time clocks in Japan run full-speed ahead. Motorcycles like the CB-450 quickly get upstaged by newer products with more brio—like the four-cylinder CB-500/550 series. So the Japanese begin to refine the older models, which inevitably become more civil and more appliance-like. The things get quieter, more dependable, better packaged and less obtrusive. Enter the Honda CB-500T.

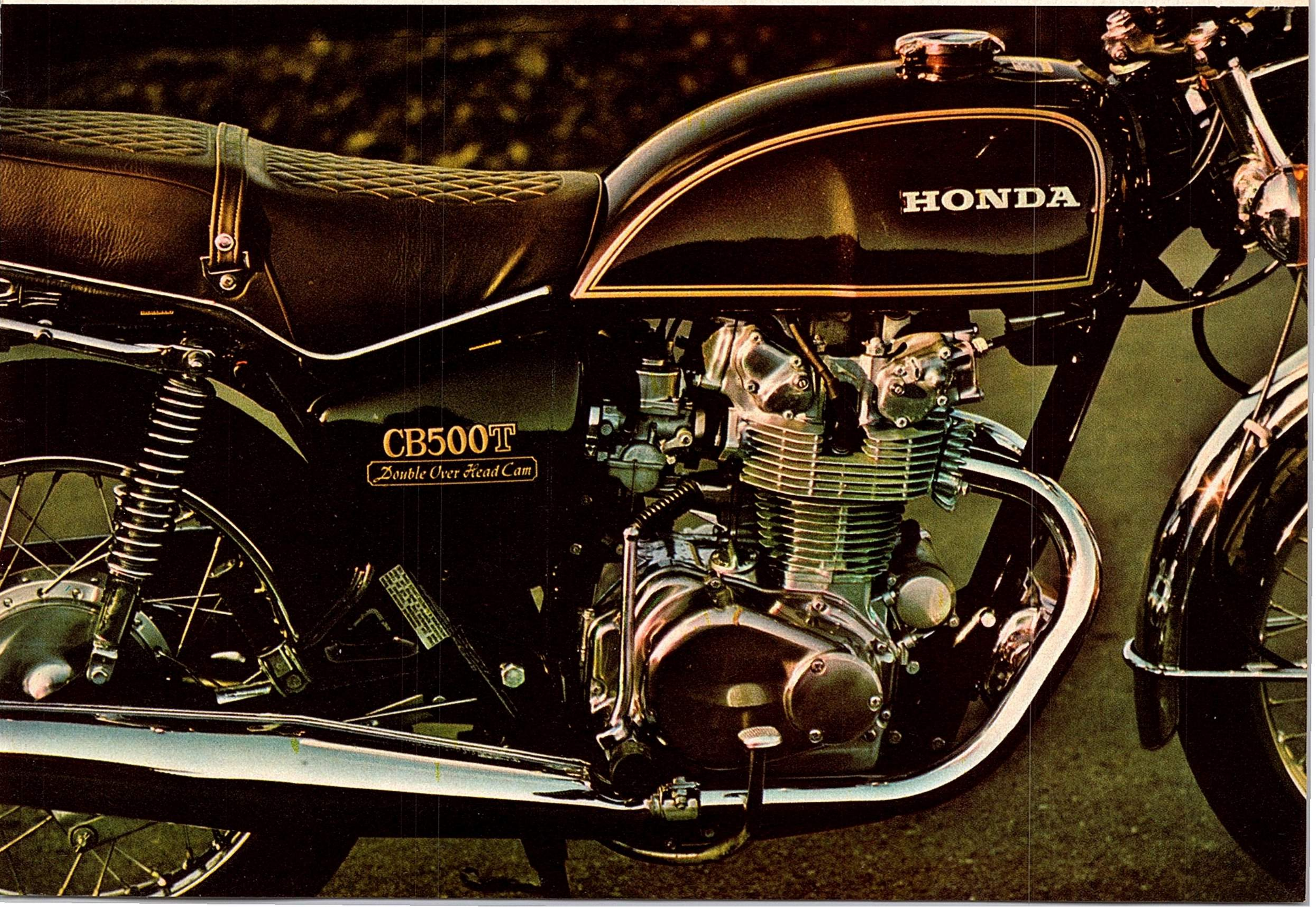
Hard-core, fast-riding enthusiasts will snicker at the CB-500T, which has been so patently styled and so thoroughly processed into the cult of appliqué. However, riders who are not consumed by the sport of motorcycling will find the CB-500T a pleasant, reliable, and generally fulfilling motorcycle.

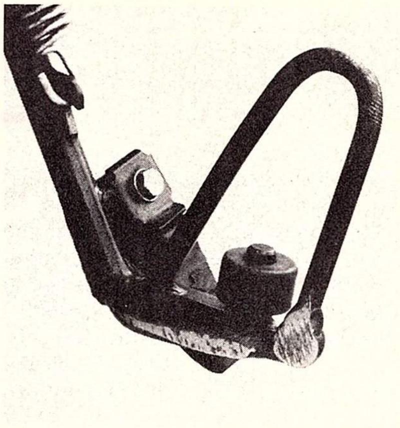
For the demanding enthusiast, the Japanese can—and do—produce motorcycles which are civil and refined like the CB500-T, *and* which stop quickly and motor like gangbusters. The supreme example is the Kawasaki Z-1. The 903 could come equipped with a velour-covered saddle and carry flower-vases on its directional-signal stalks, but that wouldn't alter one fundamental thing: a motorcycle with good handling, fine brakes, and an honest-to-dynamometer 83-horsepower engine can never be dull.

Or consider the GT-550 Suzuki. Like the Honda CB-500T, the Suzuki is refined and stylized. Yet the Suzuki feels alive. Blessed with substantial ground clearance, good roadholding and strong brakes, the Suzuki is fun to ride briskly.

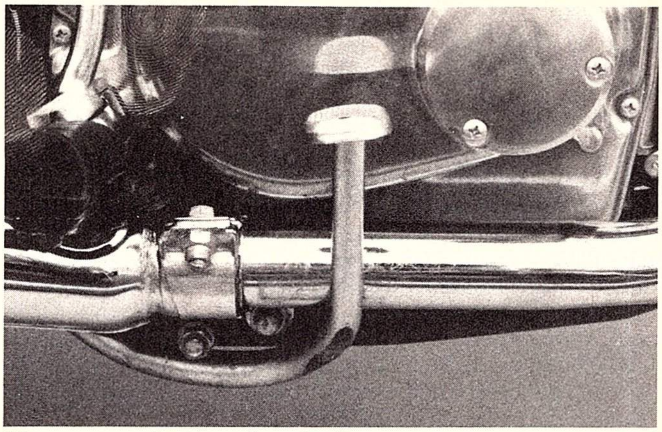
The CB-500T is just as refined and civil as the GT-550, but the Honda can't be ridden with real gusto. Vibration comes dancing out of the engine, and very little

COLOR PHOTOGRAPHY: BILL DELANEY





The sidestand grounds out on the left side. Loop makes it convenient to toe up and down.



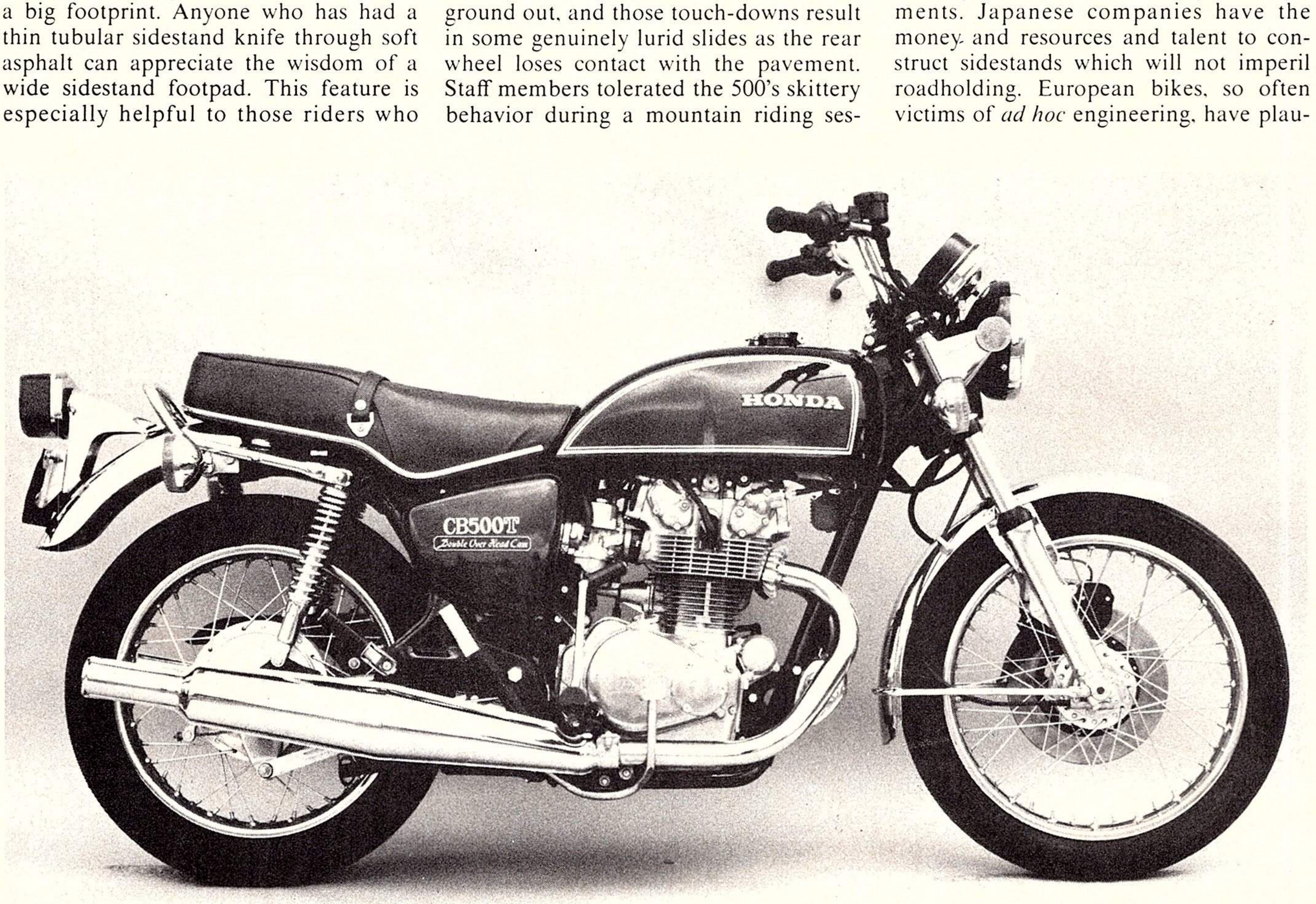
When cornering briskly to the right, the rear brake lever scrapes severely. If it bangs into the tarmac really hard, then the rear wheel picks up.

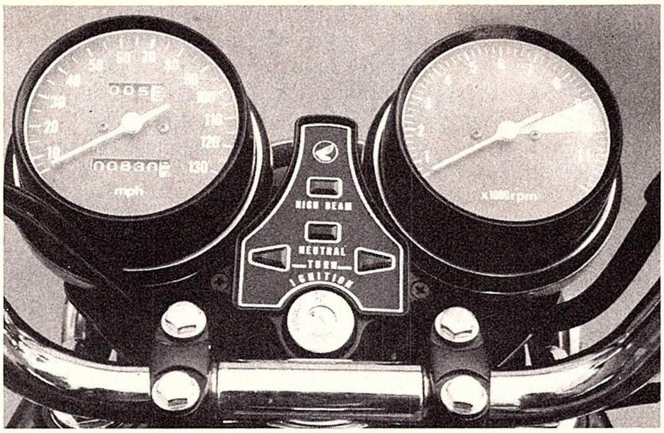
cornering clearance exists. So, unlike the Suzuki, the Honda 500T seems subdued. The demanding enthusiast would find the twin-cam twin has two basic speeds—murmer and low murmer.

Understand that the easy-going rider or the economy-minded commuter may find murmer-riding quite satisfactory. He might not mind the trade-offs which Honda has made with its 500. The sidestand makes a good case in point. The prop is a sturdy thing, which has a loop arching out for easy toe-downs. The foot carries one rubber cushion to quash rattles when the stand is retracted, and a second that retracts the stand should you ride off forgetfully. Most important, the sidestand has a big footprint. Anyone who has had a thin tubular sidestand knife through soft asphalt can appreciate the wisdom of a wide sidestand footpad. This feature is especially helpful to those riders who don't want to lug the bike up on its centerstand every time they park.

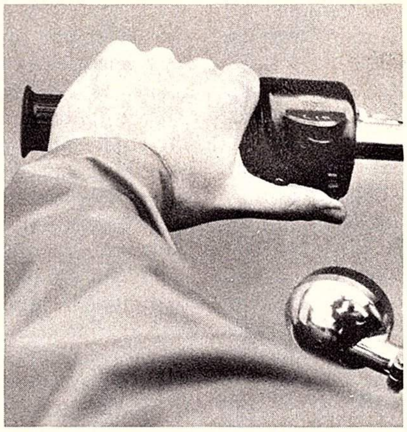
The centerstand, however, has a problem which becomes apparent if a rider tries any half-spirited cornering. An experienced rider (or an easy-rider who suddenly needs to cut a tighter line through a corner) would discover that the CB-500T has an alarming lack of cornering clearance. On left handers, the bike grounds in three different places. First contact usually occurs under the left footpeg where a little hollow metal ball functions as an arrested curb feeler. Since the pegs fold up and back, one can grind the little balls right off the bottoms of the pegs. Next, the sidestand and centerstand ground out, and those touch-downs result in some genuinely lurid slides as the rear wheel loses contact with the pavement. Staff members tolerated the 500's skittery behavior during a mountain riding session. Anyone aboard the 500T produced a light-show of sparks and a fancy routine of side-sliding for those following the Honda twin. No one tailgated the Honda. Every staffer felt that he would eventually toss the CB-500T down the road unless he backed off to a low-heat pace.

The sidestand is an example of "convenience engineering" that gets directly in the way of an important function—roadholding. The novice-commuter rider might never be aware of the sidestand problem. Perhaps. But neither the beginner nor the hard-riding enthusiast should have to choose between a soundly-designed sidestand and adequate roadholding. These are not incompatible elements. Japanese companies have the money and resources and talent to construct sidestands which will not imperil roadholding. European bikes, so often victims of *ad hoc* engineering, have plau-





At speed, the small panel between the beautiful instruments almost hums with vibration. Ignition key switch also incorporates the fork lock.



The awkward location of the dimmer switch allows rider's thumb to foul horn button.

sible—but still inexcusable—reasons for such failings. The Japanese companies have not a shadow of an excuse.

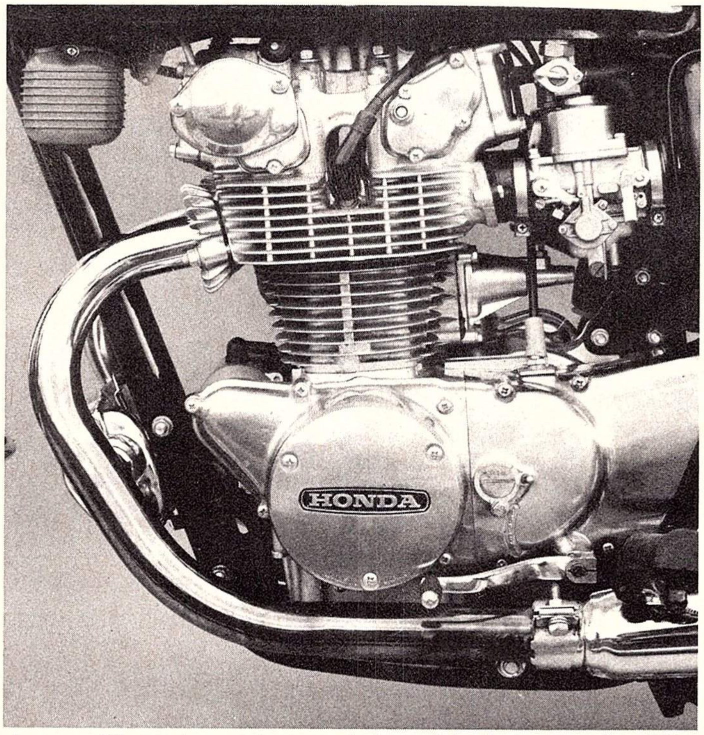
One probably can't ride the CB-500T hard enough to fully test its handling capabilities, but this much can be said. The front wags and shudders a bit on heavy downhill braking, and the rubber-socketed handlebars, which squirm noticeably under heavy acceleration and deceleration, won't add much to your confidence. Neither will the driveline slop—which delays the response between the engine and rear wheel. You'll also find that the rear end is stiff and hammery. The pounding lessens if you dial the shock absorber springs to their lowest pre-load. But in the interest of preserving as much ground clearance as possible for as long as possible, we jacked the rear springs up to their highest (and next-to-highest) preload position.

Admittedly, the CB-500T produced its most thrilling moments when skating about on its undercarriage. But the 500's biggest surprise was found right in its technical papers: Honda increased the displacement from 444cc to 498cc by *stroking* the engine. The CB-450 had bore-and-stroke dimensions which measured 70mm *x* 57.8 mm. The 500T moves 70mm pistons up and down 64.8mm. The CB-450 had sufficiently thick liners to offer Honda the simple expedient of opening the bores to 74mm. This would have created a 496cc twin. American and European speed merchants used to perform such open-cylinder surgery regularly on old CB-450s.

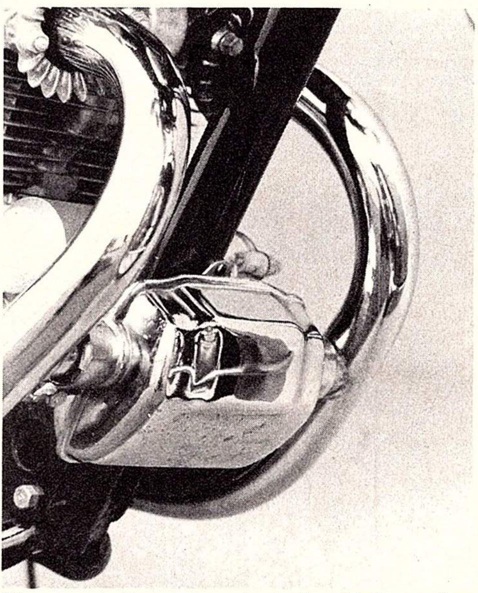
According to sources at Honda, Japanese engineers rejected boring for displacement. Since bigger pistons would increase crankshaft loads, Honda technicians concluded that the CB-450 crankshaft would have to be modified in order to absolutely guarantee Honda-type reliability. Clearly, if larger pistons would mean crankshaft modifications, then a simpler route opened up. Handle the whole displacement-increase in the crankshaft with one operation.

To increase the stroke by seven millimeters, Honda repositioned the crankpins, moving them farther away from the crankshaft's centerline. That kind of modification usually means a lengthening of the cylinders, but there's no need to change the cylinderhead. And indeed, the 500T cylinderhead is exactly the item fitted to CB-450 K7.

CB-450 owners have no way of using the new 500 crankshaft. The CB-450 series employs roller bearings to support the crankshaft, but the 500T has large ball bearings. Ball bearings are much more tolerant of crankshaft flexing than roller



A seven-millimeter increase in the stroke boosted the displacement from 444cc to 498cc. But the 500T's performance is less than the old CB-450.



The resonator/connector pipe looks a bit lumpy, but it helps the 500T to whisper along at 75.5 db(A).

bearings, and it's a good bet that the 500T crankshaft will flex a bit more than the old short-stroke 450 crank.

Compression ratio has taken a dip, compared to the 9.0:1 pistons found inside the last CB-450s. The 500's three-ring pistons still have a fair-looking dome, and they're quite similar to CB-450 pistons. Many reasons account for dropping the compression ratio to 8.5:1. First, the 500T was designed to run on low-octane low-lead fuel—not a bad idea in the era of watered-down premium. Moreover, high-compression pistons might encourage the 500T to transmit more vibration to all parts of the motorcycle, but there's no immutable law which says higher compression makes the handlebars, seat and footpegs shake more. Those who closely follow road tests will recall that the high-compression BMW R90S proved smoother than the R90, which had a less sporting ratio.

Honda's concern for cleaner air has led to a "Blow-By Gas Circulator" system in the 500T. The cylinderhead contains breathers which connect to a breather box *via* tubes. The breather box is located between the air filter units; inside the box, the stuff which has been huffed out of a cylinderhead gets separated. The gas is channelled back into the air filters, where it joins incoming fresh air on the way to the carburetors, and the oil winds up in the basement of the breather element, where it trickles down a small tube and thence back to the crankcase. The breather system contains the blow-by gasses from the combustion process; without the system those gasses would vent directly into the atmosphere.

The vacuum-controlled carburetors have not increased in diameter on the 500T, but the instruments have been further refined by the addition of an "Air-Cut Valve," first seen in 1973 on the XL-350. In the old-style carburetor without the valve, it was possible to get a misfiring in the combustion chambers and after-explosions in the mufflers when the twistgrip was snapped shut quickly. The Air-Cut Valve prevents this.

When the throttle is shut rapidly from wide-open, the carburetor butterfly stops the passage of air through the main channel of the carburetor. The engine may still be spinning at 7000 rpm, so the cylinders are trying desperately to suck air. Since the butterfly has sealed off the main inbound passage for air, there's a tremendously high vacuum in the intake tube of the carburetor. The only place the engine can get any air or gas is through the slow-speed metering system; the abnormally high vacuum pulls an extra measure of air out the low-speed air circuit. Since the gas jet in the slow-speed circuit will only pass a given amount of fuel, the air-fuel mixture suddenly goes lean. This leads to incomplete burning in the combustion chamber, and then popping in the mufflers, where unburned gas collects and then explodes.

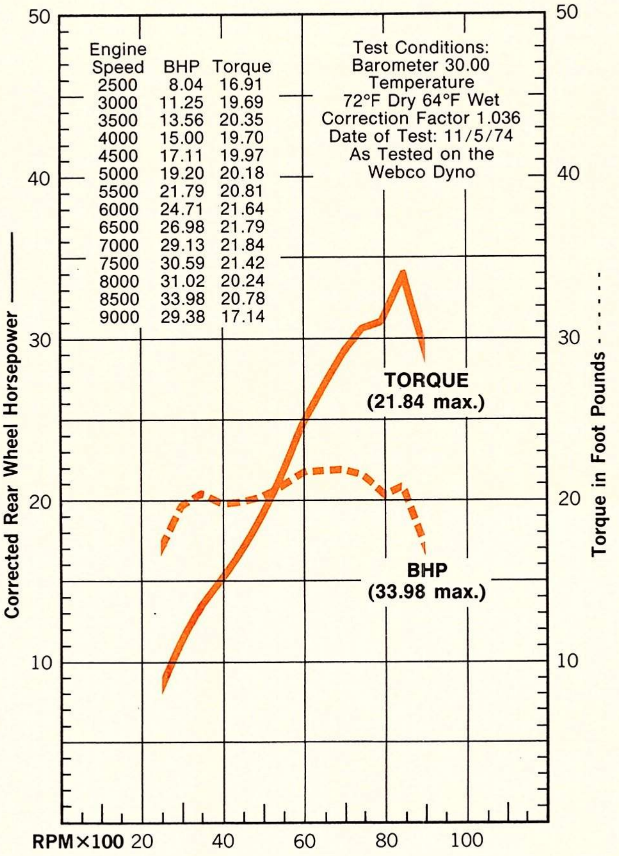
The Air-Cut Valve is composed of an air-pressure diaphragm, coil spring, plate, and plate spring. When the vacuum gets abnormally high in the intake tube, the diaphragm deflects, pushing against its spring. This allows a small plate to move (pushed by its spring). The plate blocks off the normal slow-speed air passage, and allows only a small amount of air to leak into the slow-speed circuit. Hence the air is cut, the mixture is enriched, and there's no popping inside the mufflers. Under normal conditions (such as rolling the throttle off at 4000 rpm) the diaphragm will do nothing, because there's no excessive vacuum in the intake passage, and consequently the normal air/fuel passages maintain proper metering.

If the ingoing circuitry has become more complex, the 500T's outgoing plumbing likewise has a few new twists. Up front, Honda has bridged the exhaust headers with an interconnector which incorporates a resonator. The muffling system is effective. At 75 dB(A) the motorcycle goes unnoticed. Yet the supression of

Motoring to the left, the sidestand and footpeg touch down in shower of asphalt chips. Lack of cornering clearance is a very serious shortcoming.

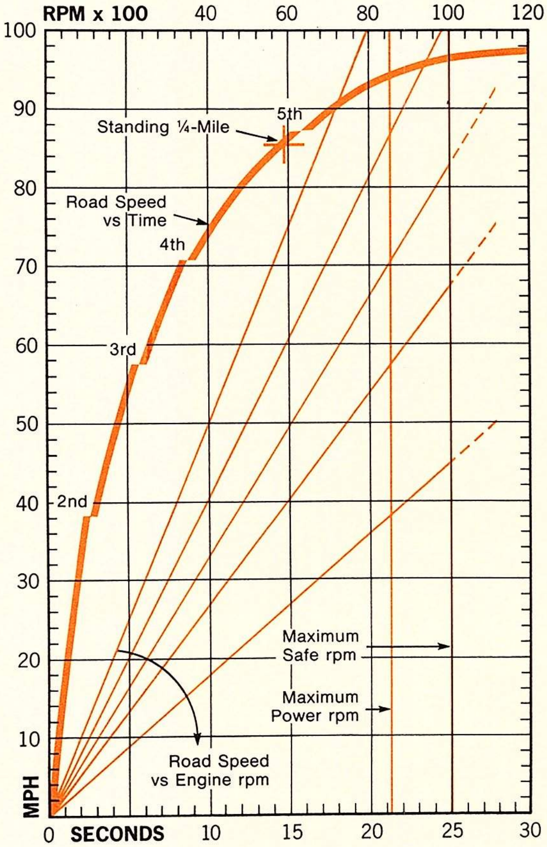
HONDA CB-500T

Price, suggested retail	$1545, POE West Coast
Tire, front	3.25 x 19 Bridgestone Rib Super Speed
rear	3.75 x 19 Bridgestone Super Speed
Brake, front	10.75 in. x 1.6 in. x 2 (273mm x 40.6mm x 2)
rear	6.5 x 1.20 in. (165mm x 30.5mm)
Brake swept area	116.1 sq. in. (748.8 sq. cm)
Specific brake loading	5.39 lbs/sq. in.
Engine type	Four-stroke DOHC twin
Bore and stroke	70mm x 64.8mm 2.76 in. x 2.55 in.
Piston displacement	498cc
Compression ratio	8.5:1
Carburetion	2; 32mm; Keihin CV
Air filtration	Pleated paper
Ignition	Battery and coil
Bhp @ rpm	33.98 @ 8500
Torque @ rpm	21.84 @ 7000
Rake/trail	27.5°/4.3 in. (10.9 cm)
Mph/1000 rpm, top gear	12.1
Fuel capacity (includes 1 gallon reserve)	4.2 gal. (15.9 l)
Oil capacity	3.0 qts. (2.83 l)
Electrical power	120 watts @ 5000 rpm
Battery	12V, 12AH
Gear ratios, overall	(1) 16.53 (2) 11.04 (3) 8.93 (4) 7.26 (5) 6.13
Primary transmission	Helical gear 3.304:1
Secondary transmission	5/8 x 3/8 D.I.D. chain 15/35 2.20:1
Wheelbase	56.7 in. (144 cm)
Seat height	30.5 in. with rider (77.5 cm)
Ground clearance	5.4 in. with rider (13.7 cm)
Curb weight	455 lbs. (206.3 kg) with full tank of gas
Test weight	625 lbs (283.5 kg) with rider
Instruments	Speedometer, tachometer, odometer reset trip-meter
Sound level (California Standard)	75.5 dB(A)
Standing start 1/4-mile	14.83 sec.; 85.55 mph
Average fuel consumption	41.5 mpg
Speedometer error	30 mph actual 28.79 60 mph actual 58.06



Engine Speed	BHP	Torque
2500	8.04	16.91
3000	11.25	19.69
3500	13.56	20.35
4000	15.00	19.70
4500	17.11	19.97
5000	19.20	20.18
5500	21.79	20.81
6000	24.71	21.64
6500	26.98	21.79
7000	29.13	21.84
7500	30.59	21.42
8000	31.02	20.24
8500	33.98	20.78
9000	29.38	17.14

Test Conditions:
Barometer 30.00
Temperature
72°F Dry 64°F Wet
Correction Factor 1.036
Date of Test: 11/5/74
As Tested on the
Webco Dyno



exhaust noise has depressed the straight-line performance of the Honda twin. The CB-450 K7 (as tested in the April 1974 issue of *Cycle*) clicked through the quarter mile in 14.35 seconds @ 89.28 mph. The CB-500T was not impressive, returning 14.83 seconds @ 85.55 mph. Clearly, a half-second and almost four miles per hour have gone out of the twin-cam twin.

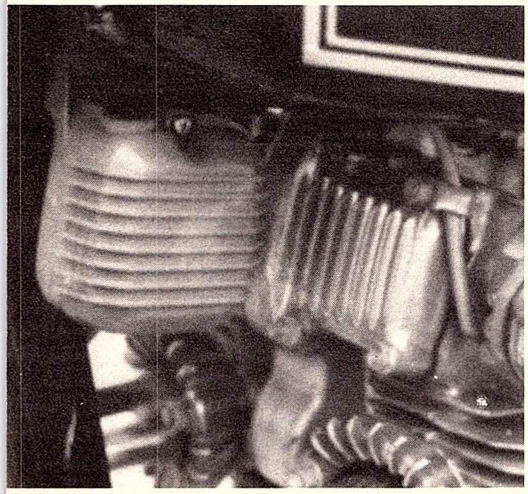
How, you might inquire, could this have happened? In the first place, the CB-500T weighs 455 pounds wet, and that's 17 pounds more than the CB-450 K7. Furthermore, the CB-500T pulls a taller final gear than the CB-450, and that really doesn't work to the 500's advantage at the dragstrip. Close scrutiny reveals that the CB-450, run to 9500 rpm at the strip, actually gets more average horsepower on the ground than the CB-500T when it's shifted at an optimum 9000 rpm.

It might be possible that the CB-500T actually makes a little less peak horsepower than the dyno figures show. On the Webco dyno, it was physically impossible to fit the motorcycle on the test stand and still leave the interconnector bridging the two header pipes. The bike was run with header pipes plugged. Normally, taking an interconnector out of a muffler system will reduce the peak power, since the exhaust gasses have but one muffler from which to exit. A single muffler, particularly one which strangles sound, can't pass the gasses as quickly as two. So one might expect that the CB-500T would make less peak power without its interconnector.

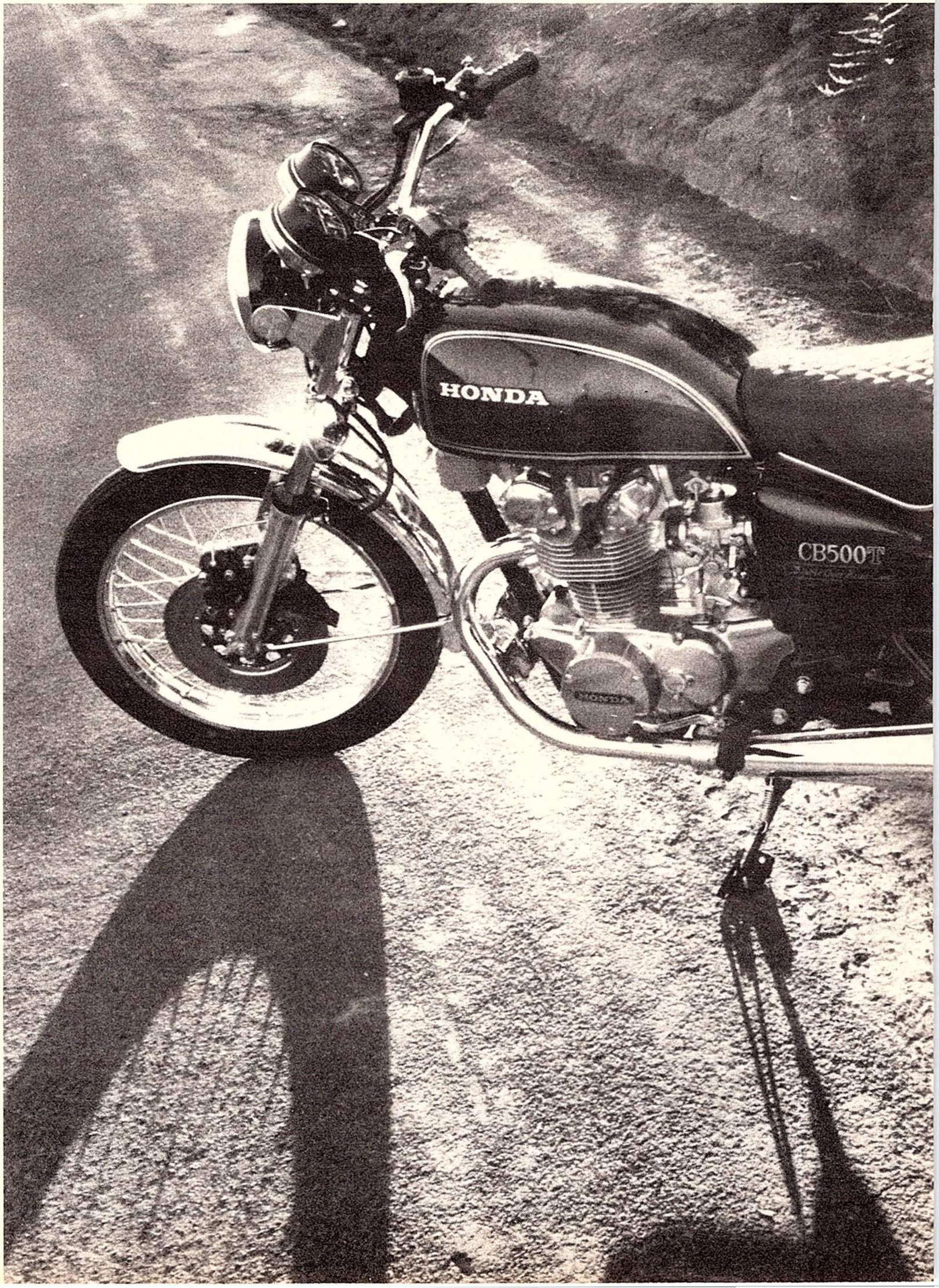
Don't bet on it. According to the Honda engineering staff, the Honda interconnector isn't a British-style "balance pipe." Honda's "pipe" has a mini-muffler, and Honda says that this system fattens up the low-speed torque curve, but really doesn't add anything on top. At least there's a possibility that 500T actually makes more low-rpm power and less high-rpm power than the dyno chart figures show. Such a hypothesis would align nicely with the 500T's dragstrip showing.

In any event, no one will buy a Honda CB-500T for horsepower. Real comfort could hardly be an argument either. The saddle contours carry large and small riders forward to the natural pocket in the saddle. The rider finds himself butted into the trailing edge of the tank. The position of the footpegs also encourages the slow crawl forward. Once in the pocket of the saddle, the pegs are positioned a bit too far to the rear. This leaves the rider sloping forward.

Depending on your anatomical construction, you may use the rubber-

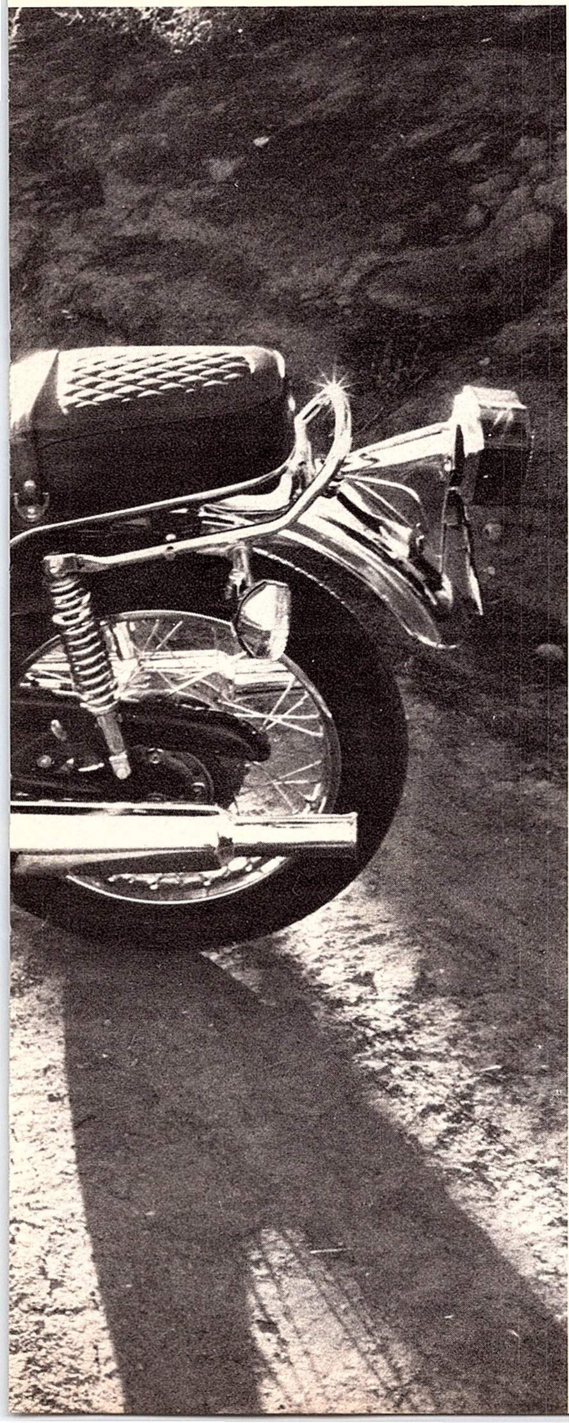


Major electrical lines (joined by snap connectors) are ganged inside the finned plastic box.



mounted handlebars to push yourself back out of the pocket; those with large and generous physical dimensions will push themselves out of the pocket only to find that the passenger-assist strap creases their hide. Removal is the only answer.

In the fork department, Honda has fit stylish new units to the 500T. The last CB-450s had legs which wore unfashionable rubber gaiters. Dowdy as it may have appeared, the CB-450 unit was internally superior to the new CB-500T fork. The 450 fork essentially had a separate shock absorber inside. The shock body was fastened to the bottom of the leg, and an internal piston controlled damping by running up and down inside the shock body. The piston rod, of course, extended to the top of the fork tube. Norton pioneered this type of fork, and the company built the "Roadholder" reputation on it.



But this type of fork is expensive to build; and manufacturers, including Honda, have been moving toward more simple damping systems.

The 500T employs a floating ring to control damping. The ring regulates the flow of oil between two areas; the first area is the central fork cavity; the second is the space formed between the upper fork bushing, the interior wall of the slider, the exterior wall of the fork tube, and the lower fork bushing. The floating ring, located above the lower bushing, lifts up when the fork leg rises, allowing the fork oil to pass quickly from the main cavity to the outside chamber. When the fork slider goes down, the floating ring drops, and the oil must pass through small holes in the ring, thus slowing the return stroke of the fork leg.

Cycle's Fork Comparison Test (July 1974) indicated that the old shock-in-the-leg system actually works better than the floating ring business. But this news should not distress owners of the CB-500T. The fork action is perfectly acceptable for highway putting, and the 500T front end delivers a reasonably soft and comfortable ride. On winding roads the 500T runs out of cornering clearance long before any front fork, no matter what type, would be seriously taxed.

Vibration is the enemy of motorcycle comfort, and the CB-500T does seem smoother than the last couple of CB-450s we've tried. Experience suggests that substantial differences in vibration levels existed between one CB-450 and the next. None was ever really smooth; it's just that some shook more than others. Our test bike trembled a lot less than the Suzuki 500 Titan, but it's still a vibrator compared to a Yamaha TX-500 or Kawasaki's KZ-400. Of course, the harder you spin the CB-500T the more it vibrates—through the pegs, handgrips, saddle and tank. Upward from 6000 rpm, shaking becomes *really* noticeable. Though the rider can learn to live with the massage, the twin-cam Honda reminds you that it shakes. The mirrors almost always have fuzzy images. The rider can see other parts buzzing in place, such as the idiot-light/ignition-key panel between the instruments. The vibration also fractured two screws holding the horn body to its mounting plate. At this point, the bike had fewer than 800 miles showing on the odometer. Fortunately, the horn hung on to the bike, dangling by its lead wires. Had the wires broken, we could have lost the entire horn—and spraying parts on a California freeway isn't exactly safety-minded.

People are presumed to buy the old double-knocker twin because it's such a "solid" machine. That may no longer be the case with the CB-500T, for Honda is trying hard to fasten a charismatic face on the 500T. If this strategy succeeds, the CB-500T will attract customers in exactly the same way that ersatz-luxury Fords and Chevrolets are supposed to draw buyers. Beneath the cut-pile carpeting, fake wood, pressed plastic crests and flossy bucket seats, there live solid but bland automobiles. Though some will see Honda's "classic look" as British Baroque Fifties, the 500T has that same warm glow of Detroit ersatz-luxury. The detailing is marvelous. The instrument package is quite attractive. The paint, despite some orange ripple on our test bike, is good.

The motorcycle abounds with "touches." The ignition key, now moved up between the instruments at long last, incorporates a fork lock. One more click counter-clockwise from *off* locks up the fork. It's a Moto Guzzi idea done far better than the Italians will ever manage.

Gadget-lovers will also like the eternal headlight, which comes on with the ignition. The headlight only goes out when the starter button is depressed, thus reducing the load on the battery. (If the battery is down and one must resort to kicking, then the headlight can be switched off by pressing the starter button.) A manual override switch should have been included in the new hand-control layouts.

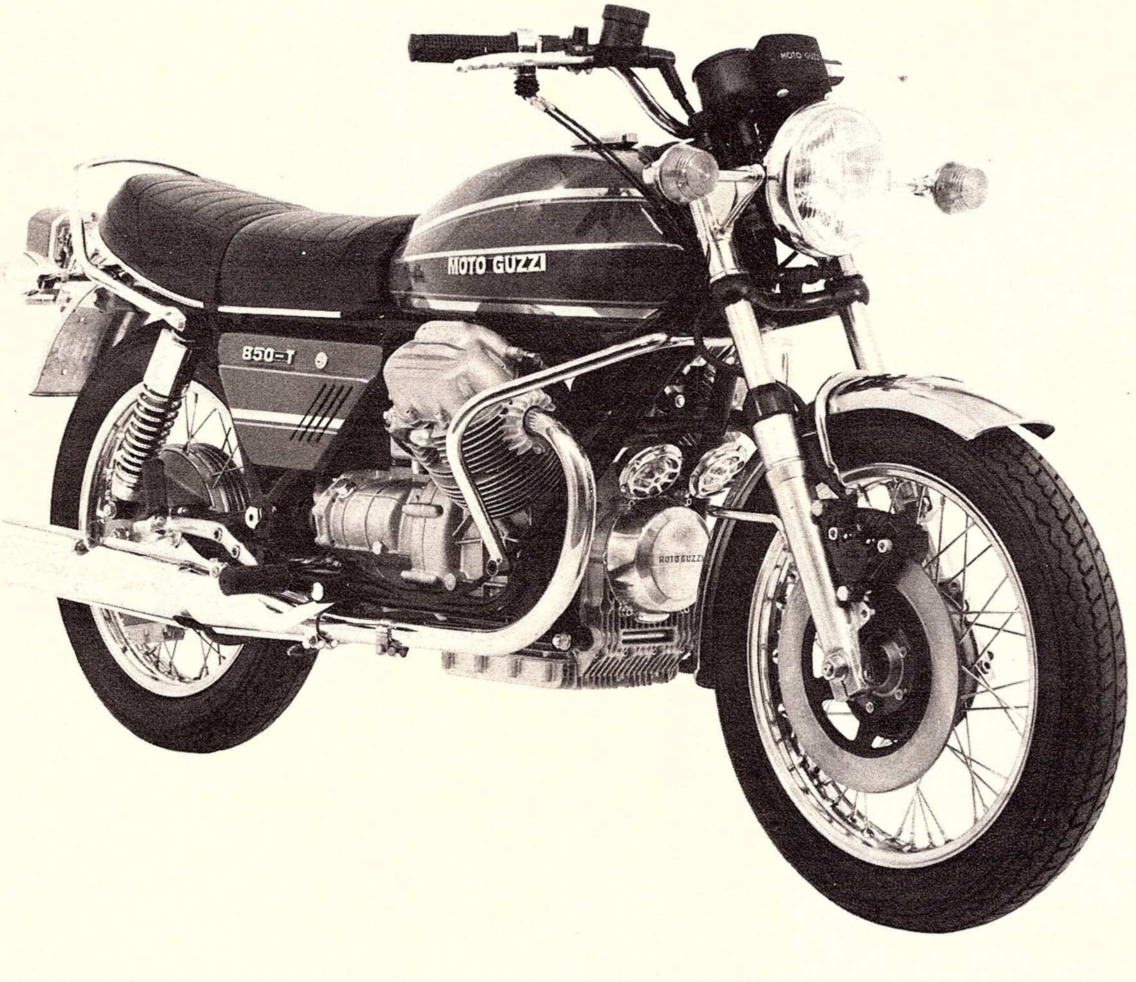
Honda made one very surprising error in their reconstruction of the handlebar controls to federal specifications. The headlight dimmer switch is now much too far away from the left hand. The rider must ease his grip, and consciously slip his hand to the right in order to thumb the switch. Even then he may inadvertently blow the horn when clicking the headlamp back to high beam.

The hard-to-reach dimmer switch (to say nothing of the ground-clearance problem) seems an anomaly considering that Honda has left safety messages all over the motorcycles. The rider is told in three different languages (English, German and French) to "Think Safety" etc. But the safety messages, gadgeteering, embossing and monogramming produce a lot of interesting details. And this sort of willful styling and detailing generates a certain attraction. Maybe Honda figures beautiful instruments can sell just as many motorcycles as double overhead cams.

If this is true, then it means that the CB-500T's magnetism lies in its appliqué. It means how the machine is wrapped and presented may be just as important—even more important—than the fundamental machine itself. That's a pretty staggering thought, especially for people who like motorcycles because they're such spare, functional objects—and hate to admit that motorcyclists respond to certain kinds of slick packaging.

The CB-500T broadcasts its fresh classic looks, its "newness," everywhere: fender, fork, directional signals, headlamp holders, instrument package, hand controls, tank, side panels, saddle and so on. It's "all new," neatish, and attractive. And like a 1975 Chevy Nova—or Ford Granada—the 500T is a lot more entertaining to look at than it is to ride. ◉

V850 Interceptor GUZZI



- Front Disc Brake
- Maintenance-Free Shaft Drive
- Constant-Mesh, Five-Speed Gearbox
- New, Race-Proven Frame
- High-Output Alternator
- 6.5 Gallon Touring Tank
- Sleek, Modern Styling
- Newly-Designed, Test-Proven Switches
- See it at your nearest Guzzi dealer

PREMIER MOTOR CORP.
Hasbrouck Heights, N.J. 07604
Exclusive Distributor for U.S. & Canada

A BERLINER GROUP MEMBER: NORTON/AJS/DUCATI/MOTO GUZZI/PREMIER MOTORCYCLES & METZELER TIRES

CIRCLE NO. 40 ON READER SERVICE PAGE.

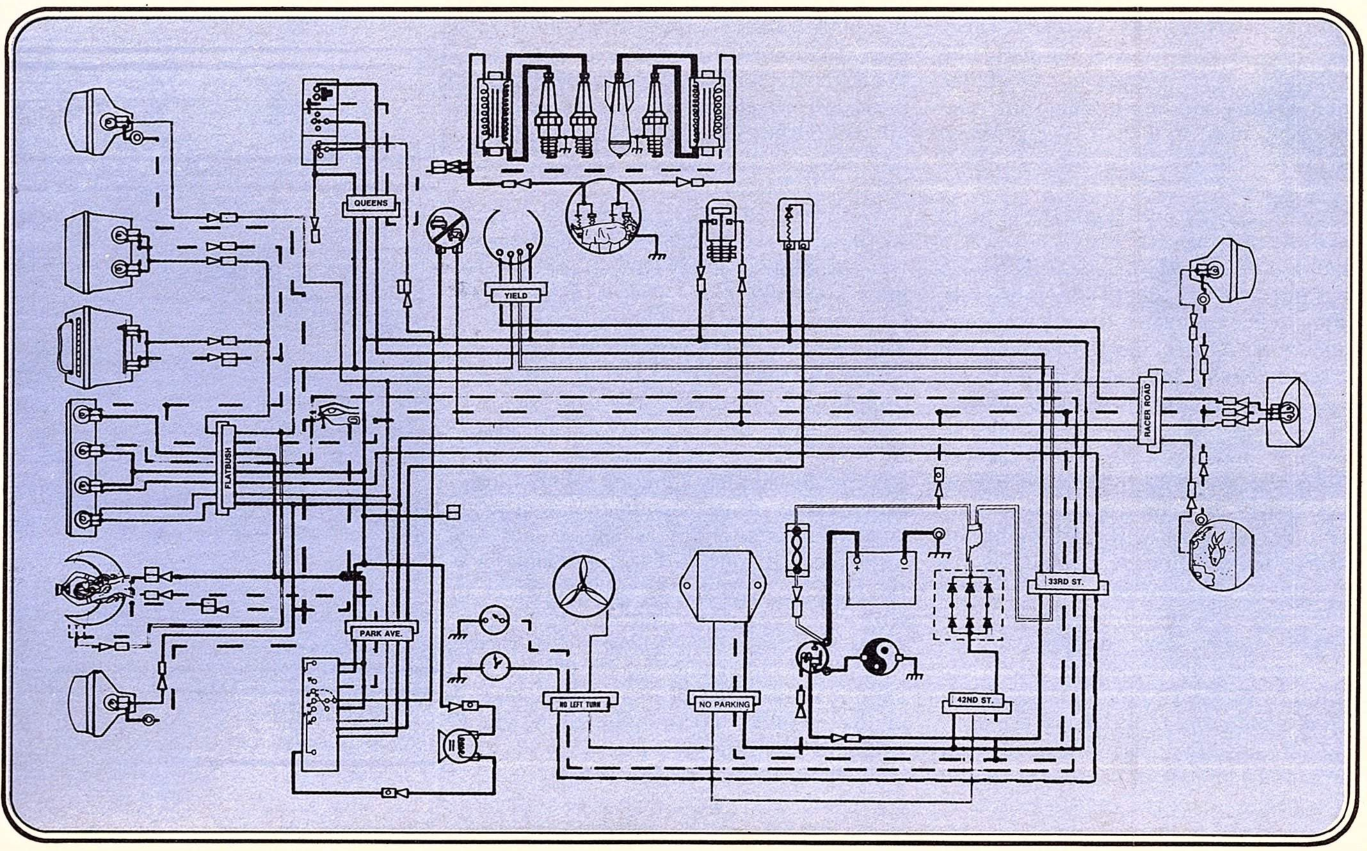
Basics

ELECTRICS

● Lurking somewhere in the back half of' the typical motorcycle owner's manual is one page certain to confuse your typical motorcycle owner. Most riders will slog through whatever a manual says about the mechanics of their bike without lapsing into brain fade, but then they reach the page titled "Wiring Diagram" and everything goes blank. All those lines and pictographs may well be intended to explain a bike's electrical system; for a majority of riders the whole mess could as easily be plans for a Tibetan prayer wheel, and is about as useful on those dread occasions when fuses blow and wires begin to send up wisps of smoke. In fact, wiring diagrams explain little except to people who already have acquired a basic knowledge of the systems in question. It's all a matter of knowing, at least in broad outline, how a motorcycle generates, regulates, stores, distributes, and ultimately uses the mysterious energy form we call electricity.

All but a very few of the motorcycles now in production employ a device called an "alternator" to power their lights, ignitions, horns, etc. These alternators make electricity by sweeping a magnetic field through coils of copper wire, in a classic application of the phenomenon we know as inductance. Until quite recently the motorcycle alternator's field almost invariably was supplied by a multi-pole permanent magnet cast into its rotor, and that still is the common arrangement in all but a few bikes. Typically, too, the alternator will be a built-in engine accessory: the rotor held and driven by the end of the crankshaft, and the stator—a laminated ring of soft iron plates on which the coils are carried—bolted into a cavity provided in the side of the crankcase. Because the rotor runs in close proximity to the stator laminations its rotation produces a rapid, alternating shift of the magnetic field in the stator windings. Inductance takes care of the rest, developing an alternating electrical potential in the coils. It's all very simple and reliable, and very far from being able to power a motorcycle's electrical system without some specialized assistance.

Alternators do not have the vulnerable commutator and brushes of old-fashioned



direct-current generators; neither is the alternator's output so closely a function of the speed at which it is driven. But there is inherently enough variation in alternator output voltage potential over the broad range of engine speeds to be an acute embarrassment, if uncontrolled, to the rest of the motorcycle's electrical system. Further, current flow from an alternator is one of constantly reversing polarity—no single output lead is consistently "positive" with respect to the others. Polarity is unimportant to the headlight, because it is the forced flow of electrons that heats its filament to incandescence, and low-frequency reversals in the direction of current flow are of no consequence; but the filament must be protected from excesses in alternator output. Batteries are less sensitive to voltage surges; they do demand that the current flowing to their terminals keeps moving in one direction. For these reasons we have the devices called "voltage regulators" and "rectifiers."

An electrical rectifier is anything that will convert alternating current into direct current, and a number of ways have been devised to handle this task—all of them involving what amounts to electrical check valves. Generators are nothing more than electrical pumps, and the kind we call alternators pump first in one direction, then reverse themselves. It's a kind of push-pull activity, and rectifiers—check valves—are needed to feed the push into a bike's electrical system but block the pull, creating an intermittent but one-directional flow of current. The problem here is to find or invent the right kind of check valve.

One of the earliest rectifiers used to make the AC-into-DC conversion was a vacuum tube containing a heated cathode plate and a cold anode. Electrons are very willing to leave a heated surface, and very reluctant to depart one that is cold. So the rectifier tube behaves as a conductor when its heated plate is charged positive and the cold plate negative, but has an extremely high resistance when the polarity is reversed. It's a very good electrical check valve—in some applications. Vacuum tubes are too fragile, their plates too sensitive to vibration, to be suitable for use in motorcycles. Worse, rectifier tubes big enough to handle the peaks of a motorcycle's current flow would be very expensive—which is why both bikes and automobiles continued to use direct-current generators for so many years.

Wider, and now near-universal, use of alternators came about because engineers developed more rugged and less expensive replacements for the vacuum tube. We think of solid-state electronics, all the things involving semi-conductors, as a very recent scientific advance. Yet we have known for many years that certain selenium-based compounds, when coated on nickel under controlled conditions, would pass an electric current from the nickel to the selenium, but not the reverse. The same properties were observed in germanium and copper oxides; all could be employed in making rectifiers, and we still find the selenium rectifier doing the AC-DC converting in many motorcycles. These are easily identified by their appearance. Selenium rectifiers look like a bunch of evenly-spaced, thin discs or squares with a through-bolt holding them together—which is precisely what they are.

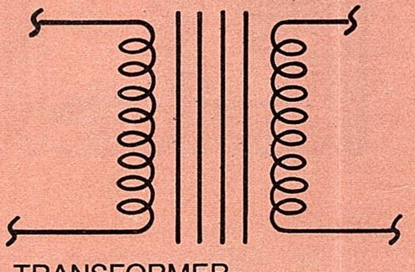
A common characteristic of the older solid-state rectifiers was an inability to handle much current or to block high reverse voltage, with overloads in either category likely to convert their status as semi-conductors into straightforward non-conductance. But now the selenium-based rectifier is being phased out, to be replaced with those built around a second-generation solid-state device, the silicon diode—which is smaller, more reliable, and will carry greater electrical loads.

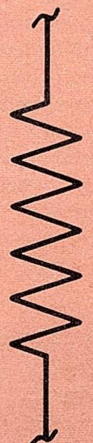
Rectifiers, whether selenium- or silicon-based, are always used in multiples. The exact number varies, but the working principle is always the same: by providing multiple connections and multiple check valves, the alternator's constantly shifting polarity can be unscrambled and all of its output fed to the rest of the motorcycle's electrical system. Output from an ordinary single-phase alternator can be rectified with a single silicon diode, but that arrangement would waste half the electrical pulses developed in its windings. With four rectifier diodes the alternator's push-pull action can be filtered so that all the pushes emerge at one electrical terminal, all the pulls at another, and nothing is wasted.

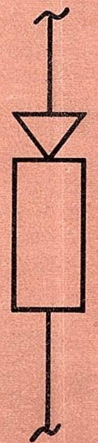
Your own motorcycle's unit may have six or more silicon diodes, in which case you can be reasonably sure it also has a three-phase alternator. There is a problem involving a phenomenon called phase-displacement in the very simple form of alternator described earlier, in which a combination of capacitance and inductance causes the peaks of voltage and current to shift apart. Books available in any public library contain voluminous explanations of the phenomenon and related countermeasures, which in total is more than anyone in full possession of his faculties would ever want to know. Suffice it to say here that in the three-phase alternator the phasing is displaced to improve rather than hinder efficiency, and the results are worth the extra diodes in the rectifier unit and the third wire emerging from the windings.

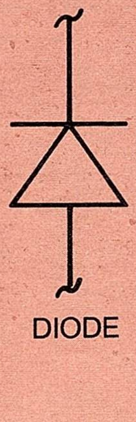
Plenty of the less complex single-phase alternators also have three-wire connections, but for reasons unrelated to such

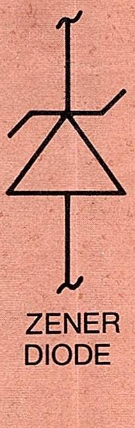
ELECTRICS: WIRING DIAGRAM PICTOGRAPHS

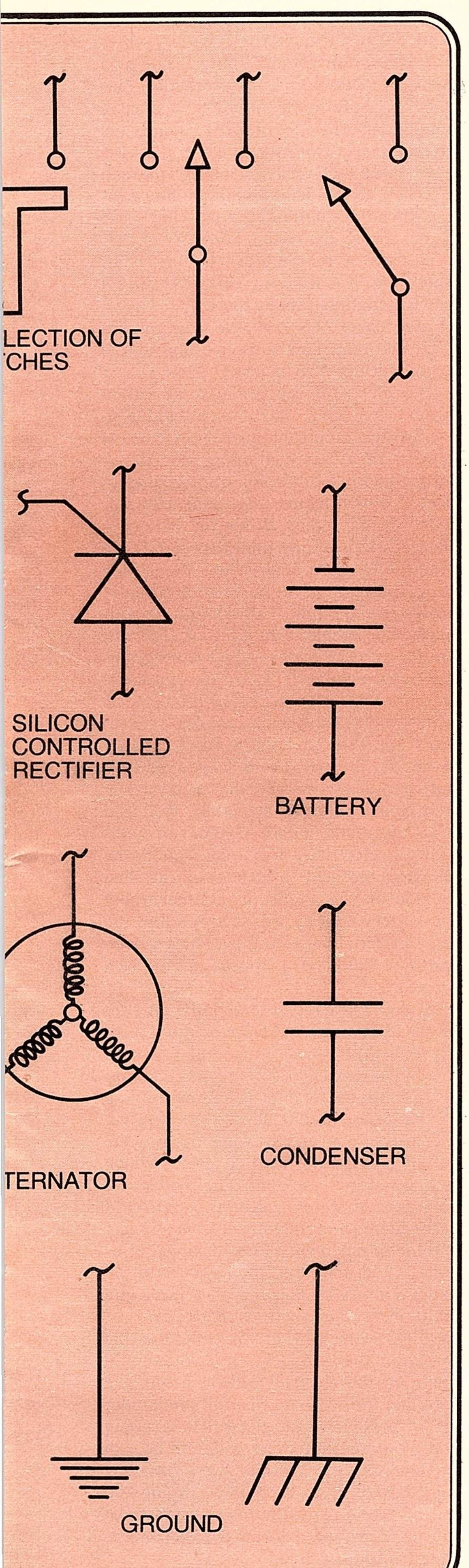

TRANSFORMER OR SPARK COIL


RESISTOR


PLUG-IN CONNECTOR


DIODE


ZENER DIODE



exotica as phase-displacement. It is, rather, a matter of output regulation. Alternators with permanent-magnet fields are simple and inexpensive, which is why they are in such wide use, but their output cannot be controlled except through indirect means. One method is to provide them with electrically separate generating coils, so that the number of windings actually involved in powering a motorcycle's electrical system can be varied with the system's demands. And the big change in demand occurs when the bike's lights are switched on. In a number of motorcycles, the 350 Honda being a typical example, switching the lights on also switches in an extra set of generating coils in the alternator—these being linked to the rectifier (*via* the light switch) by that third output lead.

Selective activation of the alternator's generating coils provides a crude matching of output and overall demand; it does not entirely bring the electrical system into balance. While the magnetic-rotor alternator's output voltage does not increase radically with rising engine speed, there *is* an increase, and it is more than the rest of the system can comfortably absorb. It would be possible to construct a relay capable of disconnecting some of the alternator's coils automatically when output voltage exceeds the desired maximum. However, mechanical relays are expensive and solid-state technology has provided a very cheap alternative: the Zener diode. Ordinary silicon rectifiers are electrical check valves; the Zener diode functions as an electrical pressure regulator. At anything below its built-in level of critical electrical pressure, or voltage, the Zener acts like any other silicon diode. But it will become a conductor of "reverse" voltages above that critical level, so if you include a 14-volt Zener diode, leading to ground in a 12-volt electrical system, then line voltage cannot rise above the Zener's 14-volt limit. Excess electrical pressure will simply be diverted to ground, which is wasteful but effective.

The combination of permanent-magnet alternator with coil-cutout output regulation and Zener diode control over maximum voltage works fairly well under average conditions. Problems arise when the motorcycle is being operated in a manner that does not conform to the manufacturer's anticipation of what will be average. If you do most of your riding around town, at night, that's not average—and you'll be operating at an alternator-output deficit, though not for long because soon your bike's battery will be very flat. Conversely, a lot of daytime riding over sporting-type roads (covered in a sporting manner) will mean relatively high average engine speeds and an alternator-output surplus, which won't hurt the battery but will overload the Zener diode. These diodes get warm when they are pushed to their limit and begin to conduct electricity to ground, and they'll overheat if asked to do too much voltage limiting. This system only works well within its designed limits, and if you do much non-average riding you're sure to discover its inherent shortcomings.

It should be obvious from the example provided by automobiles that vehicular electrical systems capable of coping with a broad variety of operating conditions actually do exist. Cars not only have lights and ignitions; they also have radios and air conditioning and numerous other accessories that require electrical power in intermittent and largely unpredictable amounts. Yet, despite the severity of the demands made upon it, the car's electrical system is vastly more reliable than those commonly provided for the motorcycles we know and love/hate. You are entitled to wonder why.

For one thing, cars do not rely on the simple but limited permanent-field alternator. They use the other kind of alternator, the good one, which has its field supplied by a second set of coils. And we are seeing more use of the excited-field alternator in motorcycles, although almost exclusively in the larger and costlier models at present.

Excited field alternators are a Good Thing on two counts: first, they have a very high output capability; second, and more important, their output can be very closely regulated. Some of them have their field coils wound into their rotors, which requires that they also have slip-rings and brushes to carry the current that electromagnetically produces their field. The fact that their slip-rings are smooth instead of being broken into sharp-edged blocks like a commutator gives them much better brush life than an old direct-current generator. Still the alternators with rotating field coils do have those brushes to wear away, and from that standpoint at least the second type of excited-field alternator—the type with fixed generating *and* field coils—is more attractive. The rotor in the fixed-field alternator spins between the field coils and generating coils (being cupped around the former and fitting inside the latter) and produces the necessary field shifts by means of its peculiar construction. This rotor is made up of two toothed castings welded to a ring—the semi-meshed position of the teeth creating, in effect, a zig-zag window. In operation the field coils' steady magnetic efforts get chopped into intermittent pulses by the toothed rotor, and the pulses induce an electrical potential in the surrounding generating coils, as happens when the rotor itself is permanently magnetized.

If the excited-field alternator has a shortcoming, apart from being more expensive to make than the permanent-field type, it is that battery failure puts the whole system into collapse. Without the battery to power the field coils there can be no magnetic excitation of the generating coils and therefore no alternator output to recharge an exhausted battery—which is not the case when a magnetized rotor supplies the field. But only rarely will a motorcycle's battery go completely flat; it usually will retain some vestige of its normal charge and that should be enough to tease the alternator into action. So the excited-field alternator's lack of complete self-sufficiency seldom becomes a real problem, and this one shortcoming is more than compensated by the ease and accuracy with which its output may be adjusted to suit demand.

The manner of adjusting alternator output involves varying the strength of the excited field, and this job is done by a mechanical relay—which interrupts the flow of current to the alternator's field windings when output rises above a certain level. Solid-state electronic regulators exist, but are comparatively rare especially in motorcycles. The regulators found on motorcycles with excited-field alternators are little more than an electromagnetically-operated two-way switch. Line voltage is given a path to ground through the windings of an electromagnet, which controls the position of a spring-mounted bar. At low engine speeds, when alternator output voltage is less than that of the battery, the electromagnet's pull is slight and the spring-mounted bar rests against an electrical contact that connects the battery with the alternator's field coils. The same condition exists when the motorcycle's key is turned on, before the engine is started. But then as engine speed rises, and voltage climbs with it, the pull of that electromagnet in the regulator tugs the bar away from its first contact. The alternator's field coils are then energized by its own rectified output, and this condition persists until line voltage rises to the limit for which the regulator has been set. At that limit the stronger pull of the electromagnet brings the movable bar against a second electrical contact and this one establishes a circuit that bypasses the alternator's field coils entirely. With the field coils inactive, alternator output drops to zero—but only for the briefest of moments, because line voltage also drops and then the electromagnet relaxes, which allows the bar to lift away from the second (field bypass) contact and reestablishes field current.

In practice, the regulator's contact bar spends most of its time vibrating against the second contact, giving the alternator field coils short bursts of current and boosting line voltage back to the regulated limit each time it lifts clear. Only when the battery is nearly depleted, and able to absorb a lot of excess voltage, will the regulator contact bar hover between the low-output and high-output contacts in a relative state of equilibrium, and even then it will frequently be pulled against the field-bypass contact. The difference between conditions prevailing at a low charge rate and those attending a very high flow into the battery is the frequency at which the bar rattles against the field-bypass contact.

People who are unfamiliar with automotive electrical systems may think that the voltage regulator described here is the ultimate in sophistication. In truth, it is no more than a meeting of minimum requirements, because the best motorcycle voltage regulators we've seen are *only* regulating voltage, and under certain circumstances that's not enough to protect a bike's battery. The problem arises when the battery loses its charge for some reason, which means that the voltage across its terminals will be rather low compared with alternator output voltage. When that situation exists the alternator will pour electricity into the battery at a rate too high to be tolerated. Batteries being charged at excessive ampere (current) inputs behave much like any other electrical conductor subjected to the same treatment: they overheat—which means that the electrolyte boils and the plates and outer case may be deformed. If the case develops a leak or the buckling of plates causes an internal short-circuit, the battery is forever ruined.

Overcharging is not a problem when a battery is maintained at something near the fully-charged level. The electrical pressure at the terminals of a 12-volt battery that is charged to 12 volts will prevent alternator output voltage, which will be regulated to about 14-14.5 volts, from forcing more electricity into the battery cells at more than a trickle. Danger exists only when the battery is substantially less than fully-charged, and automotive-type voltage regulators—unlike those provided for motorcycles—can handle even that problem. Automotive voltage regulators have much the same construction as those used on bikes, but in addition to the electromagnetic windings that control voltage, they have a very heavy-gauge outer winding that controls current flow. All the output from the alternator passes through this current-control winding (which consists of only a very few turns wrapped over the voltage-control electromagnet) and its influence is superimposed on the voltage regulation. The net result is that the battery is protected from too-fast charge rates, while the whole electrical system is regulated for a voltage level tolerable to all its components.

Considering that the motorcycle's battery is a tender, easily-ruined bit of equipment, it would be best if we could manage without the things. Unfortunately, that hardly seems possible in the context of presentday traffic conditions. It is quite possible to operate lights, horns, etc. directly from an alternator and use a magneto to provide the engine with sparks. The catch in this otherwise appealing scheme is that without a battery to power the electrical system when engine speed is low, the alternator would have to be absurdly large. Even then there could be trouble, because locking up the rear brake in a panic stop would stall the engine, drop the alternator output to zero, and leave you without lights at night or a horn to honk during the day. Also, a battery serves as a maximum voltage limiter in its own right, and without it our hypothetical battery-free motorcycle might well need a whole bank of Zener diodes to handle the voltage peaks from the alternator. If you have a 12-volt battery spliced into an electrical system it will maintain line voltage when the alternator output is low—and try to absorb the excess above 12 volts.

Because a motorcycle's battery is so important, it is necessary that you should know something about the way it works, how to check it for health, what makes it go bad, and how to revive one that is wounded less than mortally.

The electrical accumulator we call a battery is a device that functions due to a complex electrochemical process. It consists of a case containing lead plates submerged in a dilute sulphuric acid electrolyte, which forms a layer of lead sulphate on the plates. When the battery is charged the cathode plates (positive) are reduced to gray lead, while the anode (negative) plates acquire a coating of brown lead dioxide. This condition is unstable, and creates a buildup of electrons on the cathode plates—which emerges as an electrical potential across the terminals, one of which is linked to all the cathode plates and the other the anodes. If electrons are allowed to flow from cathode to anode, the coating of lead dioxide is transferred across—via the electrolyte—from the former to the latter. Reduced to its essentials, it's all a matter of withdrawing electricity from the battery by allowing the acid to etch away the lead dioxide on the anode plates; recharging the battery consists of electroplating the same material back on the anodes. Given care, the battery can repeat this process for years.

As you will have observed, the amount of electrolyte in a battery tends to diminish, and your owner's manual tells you to add water. There generally is a caution against the use of tap water for topping off batteries, and it should be heeded. Electrolysis converts the water diluting the battery's sulphuric acid to gases, which escape out the case vent. That's why you have to add water, and you should add *only* water. The stuff you get from a faucet will include percentages of disolved minerals, which may find their way onto the battery plates or become an unwelcome addition to the electrochemical process. Distilled water is what you should trickle into your bike's battery, and you should maintain the electrolyte level within the specified linits. If you overfill, the battery may overflow and the electrolyte certainly will be more dilute than it should be. Let the level fall too low and you'll have the top edges of the battery plates drying and out of action, with the lower portions of the plates exposed to an overly concentrated sulphuric acid.

(Continued on page 92)

Kawasaki Good Times

1975 GOOD TIMES ROLL

Whatever your idea of good times might be, we've rolled out 21 different motorcycles in our 1975 Kawasaki lineup to make sure you're covered. We've got good times for motocrossing, touring, commuting, vacationing; good times for beginners and good times for experts. All of which means we've got a good time for you. Happy '75.

At the top of our line is the already legendary Z-1. 903cc's of power and glory, now with a new chain and chain assembly for longer life.

Our smaller four-stroke, the KZ-400, will be available in two versions: the standard KZ-400S and the KZ-400D, with front disc brake and electric starter.

Add to these our new Trials bike, the KT-250, our enduros, like the new KS-125, our street bikes, MX bikes, and small bikes, and you're covered for practical day-to-day transportation, for week-end tripping, and for race-day competition. As the Kawasaki song says, "Get aboard, get away . . . " Well, you know the rest.

Have we got news for you.

We're publishing the *Kawasaki Good Times* for one specific purpose: to keep you on top of all the things we're doing for your enjoyment. Each edition will feature the kinds of good times—on or off our motorcycles—we hope you'll appreciate reading about. In fact, we hope you'll get a kick out of just reading the paper itself. Okay, turn the page.

(Advertisement)

Good Times Roll From Nebraska. Really.

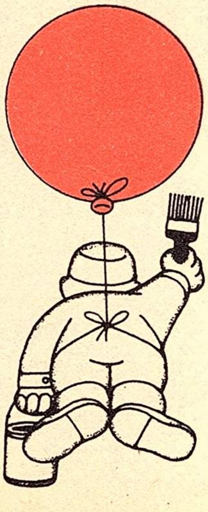
If the Nebraska Tourism Bureau is looking for an official song, we'd like to suggest "Good Times Are Coming to Nebraska."

Because we went to Lincoln, found a terrific 286,000 square-foot factory, and bought it, making us the first Japanese motorcycle manufacturer to set-up shop in the U.S.

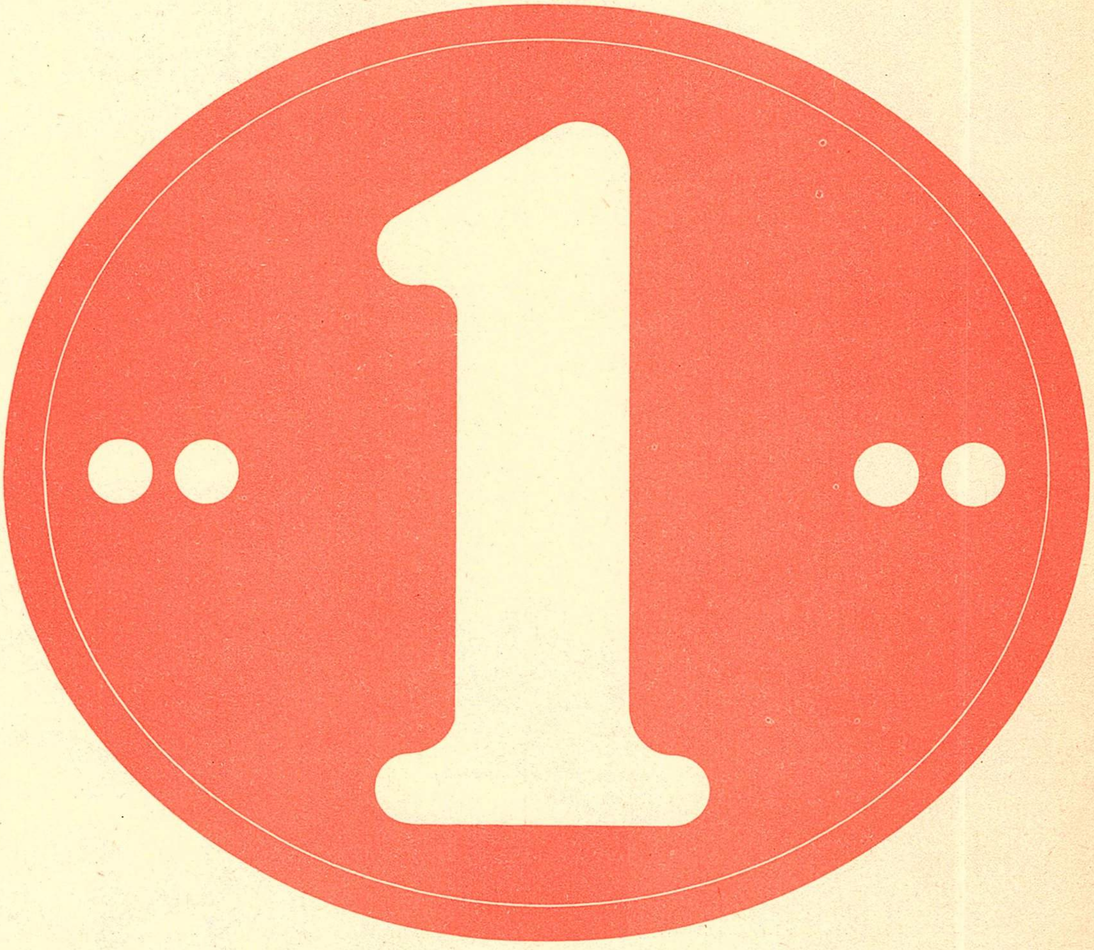
From our Lincoln assembly line we plan to roll out our KZ-400's and our Z-1's. By the thousands. We feel the advantages to our customers will be significant. For instance, retail prices won't be affected by the fluctuation of international currency. Our supply of bikes will be more flexible. Supply of parts will be more efficient.

With our Research and Development facility in California and our manufacturing plant in Lincoln, we're tremendously pleased to be the first "Japanese" company to design and produce bikes in America for the needs of American riders.

Now if we could only make our factory official by painting our name on our giant water tower. The first painter we talked to quoted a price that would put him in Z-1's for life. The next guy was more reasonable until he developed a fear of heights and backed out... uh, down. So if anybody knows a good sign painter who doesn't have dreams of retiring a millionaire or who doesn't have acrophobia, just ship to Lincoln C.O.D.



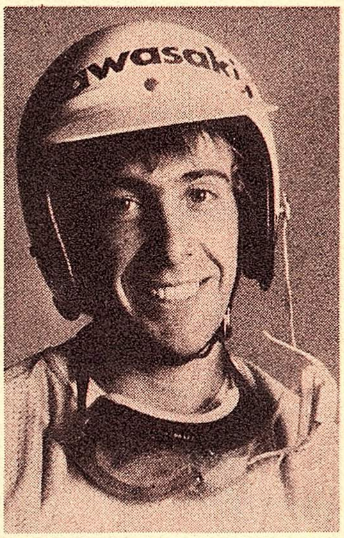
Jim's number one!



In these days of 3 and 4-man MX teams, whoever dreamed a one-man "team" would let the good times roll for the good ol' company name? Well, we did. And thanks to Jim Weinert, it paid off.

As you probably know, Jim won the 1974 A.M.A. MX Championship, riding his Kawasaki KX-450. And proud as we are that our one man, one bike earned the NUMBER ONE PLATE, we also know it's the man riding the bike—any bike—who's the real winner. So we thought you'd like to know something of the man.

Jim was raised in Middletown, New York. Getting into bikes sooner than most kids was logical enough, since his dad was a motorcycle dealer. And since the mining hills around Middletown were ideal for off-road riding, that's where Jim broke into the racing scene.

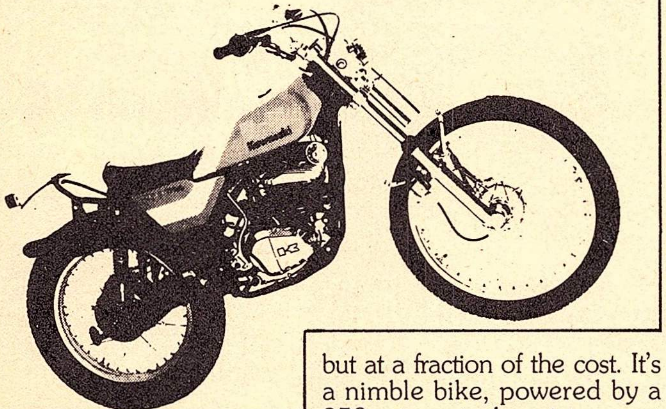


Jim Weinert: Kawasaki MX "Team"

From boyhood racing in rural New York, Jim paid his dues on the national circuit. And paid them well. By 1973 he captured first overall in the coveted Trans A.M.A. Series, the first American to grab the overall title in the series history.

Jim now lives with his wife in Mission Viejo, California. When he's not competing on MX tracks across the country, he can usually be found plucking a guitar. Besides his talent for riding bikes, he's discovered a talent for writing songs. But he's put the two together by singing about motorcycles and the people who ride them. And who knows? If he can make it as a one-man MX team, maybe he could also make it as a one-man singing group.

UP WITH TRIALS



You don't get to be a winner by riding anything less than a winning machine. Especially in a sport as challenging as trials riding, one which requires the utmost in precision, control, and unity between you and your bike. So when a winning rider like Three-Time European Trials Champion Don Smith supervised the design of our new trials bike, the KT-250, you can be sure he expected it to be the very best machine available. Period.

The KT-250 is the first production motorcycle designed to compete with the most expensive, exotic European trials bikes, but at a fraction of the cost. It's a nimble bike, powered by a 250cc two-stroke, piston port engine, designed just for trials. As for looks, we think you'll like the way we've designed form to follow function.

Obviously, we're convinced the KT-250 is a helluva bike. And apparently Tony Murphy of *Motorcyclist* thinks so, too. After we turned him loose for a day's ride in the hills of Northern California, here's how he reacted: "We came away convinced that Kawasaki now offers the best trials bike built in Japan, offering features and performance that more than rivals the Spaniards."

Enough said.

SPECIFICATIONS *

ENGINE

Type	*Single Cyl. 2-stroke, piston port*
Bore x stroke	*69x65mm*
HP @ rpm	*17.0 @ 6.500 rpm*
Torque @ rpm	*15.9 ft-lbs @ 4.000 rpm*
Compression ratio	*7.0:1 (actual)*
Lubrication system	*Superlube (oil injection)*
Carburetion	*Mikuni VM 26SC (26mm)*
Air Filter	*Open pore foam*
Ignition system	*Magneto/CDI*
Electrical system	*Flywheel magnet (no battery)*
Starting	*Kick starter/primary system*
Exhaust	*Upswept with muffler/spark arrester*

DRIVE TRAIN

Primary/ratio	*Gear/3.263:1*
Clutch	*Wet, multi disc*
Transmission/shift	*5-speed/left foot*
Gear Ratios	*3.250, 2.466, 1.833. 1.217, 0.785*
Final drive/ratio	*3.714 (52/14)*

*Subject to change without notice.

CHASSIS AND SUSPENSION

Frame	*Tubular, double cradle*
Suspension,	
front	*Telescopic fork, 2-way damped*
rear	*Hydraulic shock/dual rate spring*
Brakes,	
front	*4.7" dia. SLS*
rear	*5.1" dia. SLS*
Tires,	
front	*2.75x21 Trials Pattern*
rear	*4.00x18 Trials Pattern*
Rim locks, front/rear	*1/2*

WEIGHTS AND CAPACITIES

Weight, wet, unladen	*212 pounds*
Fuel capacity	*1.5 gallons*
Oil tank capacity	*3 quarts*

STANDARD EQUIPMENT

Speedometer	*80mph, no trip*
Tools	*yes*
Stand	*Right side, stand*

Do We Have To Hit You With A 2 x 4?

Sometimes we wonder if that's what we have to do to get your attention. For months now we've been trying to make you notice our gusty, street-legal enduro—the KS-125. It's our first entry into the 125 market since '73, but you won't listen. You keep thinking about our old 125, the F-6, but we don't make that anymore. Because the KS-125 is a whole lot better. It has a 6-speed transmission and a rotary valve engine that just pulls, pulls, and pulls.

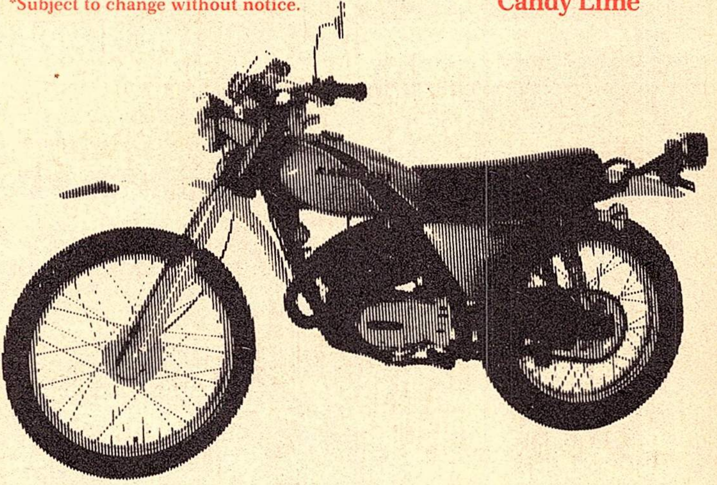
Hey, guys, the KS-125 is really super, if we can just get you to consider it with an open mind. For instance, consider what *Motorcyclist* magazine said: "Sitting, standing, riding and handling, this bike's got it all together. It's a genuine pleasure to see a follow-on from a previous model that's truly all-new and better." That's as nice as anything we could say about it.

See how it pays to pay attention?

SPECIFICATIONS *

Engine type	**single cylinder, 2-cycle, rotary disc valve**
Displacement	**124cc**
Bore and stroke	**56 x 50.6 mm**
Ignition system	**Magneto**
Lubrication system	**Superlube**
Transmission	**6-speed**
Front suspension	**Telescopic fork**
Rear suspension	**Adjustable shocks**
Tire type	**Universal**
Fuel tank capacity	**2.0 gal.**
Brake type	**Drum**
Overall length	**82 in.**
Overall width	**33.7 in.**
Overall height	**42.9 in.**
Wheelbase	**53 in.**
Ground clearance	**10 in.**
Weight	**214 lbs.**
Colors	**Candy Yellow, Candy Lime**

*Subject to change without notice.



New Water Sport Launched in Lincoln

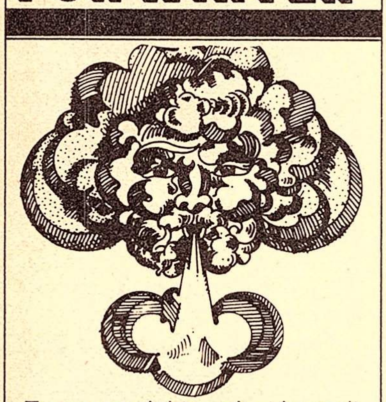
We're assembling more than motorcycles at our new plant in Lincoln. There's also our new Jet Ski. It's a ski without a boat. A boat without a propeller. Sort of a cross between a jet-propelled water ski and a motorcycle without wheels. A water-going snowmobile.

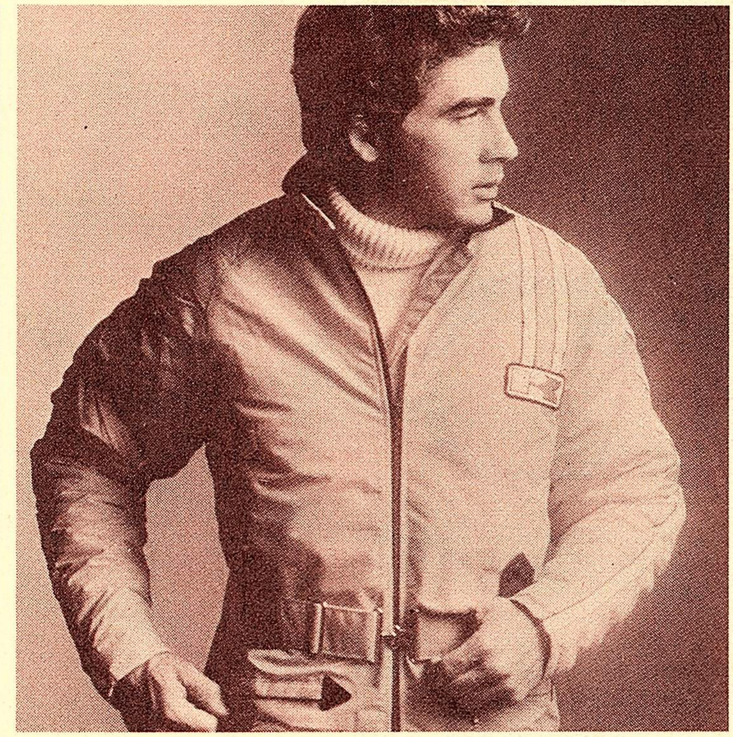
Whatever, the Jet Ski gives you water-sports fans a nifty new way to go. Standing or kneeling on the Jet Ski, you can skim across the water flat out, at speeds up to 35 mph. You can change directions about as fast as you can change your mind—by shifting your weight like a slalom skier. If you unload, the Jet Ski actually slows down and circles you.

Power for the water jet drive is produced by a 400cc water-cooled engine.

For all the good times possible on a Jet Ski, it's been tested for a serious function, too. Since last spring, lifeguards at Huntington Beach, California, have used the Jet Ski to save swimmers in distress. If it takes a lifeguard about 20 minutes to reach a drowning person, the Jet Ski can get there in about two minutes.

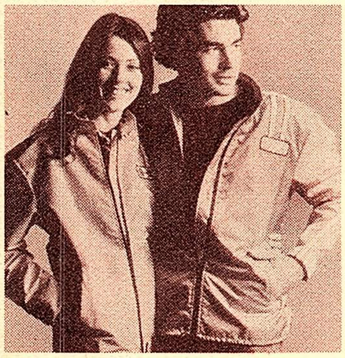
WARM UP FOR WINTER





Try as we might, we just haven't been able to find a way to turn 30 degree winters into those glorious 70 degree summers just made for motorcycling. But we've done the next best thing: we've created a line of cold weather clothing that can make your insides think it's summer even when the snow on the road tells you different. You can start with our nylon mesh thermal jerseys, then cover up with our windbreakers or our full-length riding suit. For colder weather we've got denim, vinyl and leather jackets and a pullover sweater. And if you've got our fully-lined cold weather enduro jacket, you can ride in the dead of winter to your heart's content.

Remember there's no law that says the only time you can wear Kawasaki cold weather gear is when you're on your bike. It'll also keep you warm when you're skiing, or ice skating, or making snow angels.



LETTERS

Dear Sirs:

The radio commercial that you do about the business man riding to work on his Kawasaki and going right by, has changed my life.

I'm a 40 year old woman, caught up in the trap of life with bills, children, etc., and working. I would love to get on a Kawasaki and drive right by everything.

After hearing the commercial, I went to my boss and insisted on a part time work week (which is unheard of in my company) and got it. I may not have a Kawasaki, but I have more freedom now and would like to see on television or hear on radio, a commercial about a 40 year old woman who lets herself go on a Kawasaki, and lets the good times roll.

Shirley Schauer
Geneva, Illinois

To Whom It May Concern:

My father and myself both were Yamaha owners. He is retired and I am fully employed. I traded my Yamaha in on a 900 Kawasaki. From April to September I have traveled over 15,000 miles. In all of this riding a friend of mine, who also owns a 900, rode with me.

A few of our accomplishments were: 3,300 miles in one week, 721 miles in one day, 7,300 miles in two months. As said before, I am fully employed as is my friend and out side of three weeks vacation, we were putting in 40-hour work weeks.

We now have a new companion riding a 900 with us. My father, who is over 50 years old, has also traded in his Yamaha on a 900 Kawasaki. This coming summer I expect to ride 20 to 25,000 miles.

Sincerely,
Mike McCarty
Dowling, Michigan

Advertisement

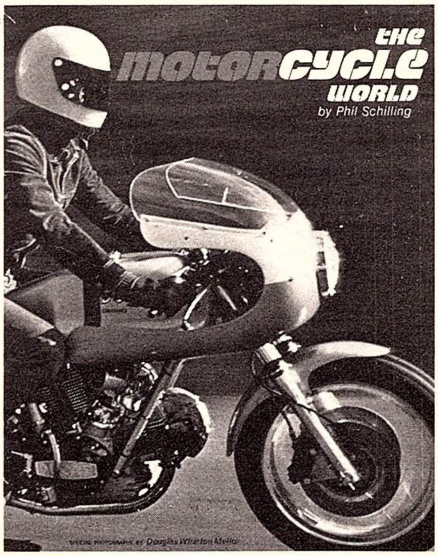
RIDE'EM COWBOY

Get inside the Kawasaki Split Leather jacket and you'll wear that rugged western look of ride 'em good time cowboys. The jacket's fine leather, dyed deep blue, resists fading, chaffed elbows. 100% rayon lining, strong, double-sewn seams, brass snap fasteners. Sizes: X-Small to X-Large. Suggested retail price: about $40.

Book review

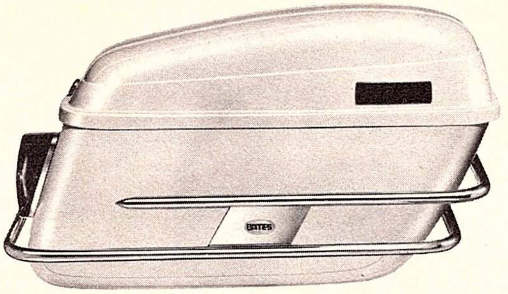
● *The Motorcycle World,* by Phil Schilling (Ridge Press, $17.95) is a book any rider/writer might reasonably wish he had written, and one any motorcyclist will delight in reading. The author has put together a history without giving us the usual historian's dreary recitation of mere facts; he presents an overview that does not neglect the interesting, illuminating detail; he tells a tale that is complete without being tedious.

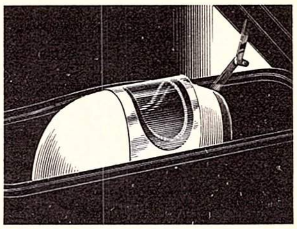
The book is impressive for its scope, and quality, both of which tend to justify its price. Chapters deal with how it was when Cannonball Baker fought his way from San Diego to New York in 1914, why the once-popular board tracks faded into oblivion, when the modern era began and the reasons for its coming. It is racing of all kinds and touring for all seasons; motorcycles blurred by time and legend, and the kind your friends ride today. It says what has been right, and wrong, in the sport and shows the lines of development for all the generations of motorcycles foreign and domestic. It introduces you to men long departed and to a few still making news. It is a documentary and a celebration.



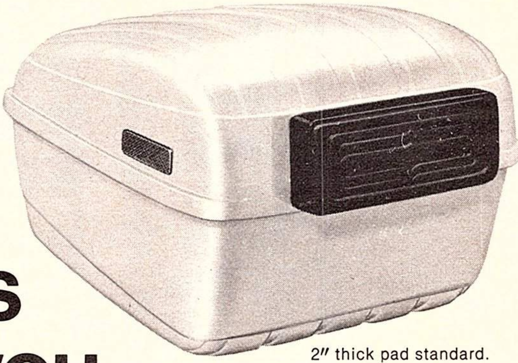
Best of all, Schilling's book reminds us that motorcycles, like women, may be loved and cherished even when imperfectly contrived, and that knowledge is less important than understanding. Phil is not a man to say why a piston was made of one alloy and not another; his approach to technology is to merely kneel at its threshold. But his understanding of why some motorcycles satisfy the very soul while others only transport the body is visceral, and never falters. It is this understanding, carefully organized and elegantly expressed, that makes his book a motorcycle enthusiast's treasure.

—*Gordon Jennings*




King size Bag holds
full face coverage helmet.

Even std. size Tote Box
holds two helmets.


2″ thick pad standard.

Bates gives you room to spare!

Bates is big in Fiberglass Saddlebags and Tote Boxes. You'll dig the streamlined design . . . enough capacity to carry the largest of helmets plus plenty of other gear . . . 5-tumbler key-lock safety . . . and rugged, weathertight fiberglass construction. And note these *no cost* bonus items: Top permanently mounted with a concealed hinge, soft flocked interior, Class A side safety reflectors, 2″ thick backrest pad on Tote Box and Bates famous hand-polished finish.

Optional goodies come in the form of custom colors, striping, polished chrome Bag Guards and Trim Rails plus a new combination stop, tail and directional light that's a winner. Saddlebag Mounts install easily and are custom designed for each bike.

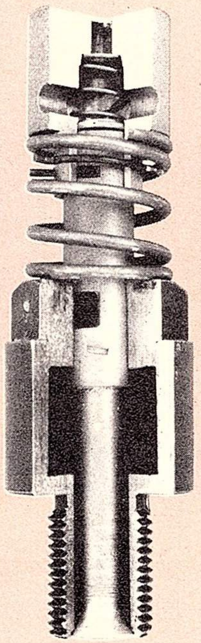
Do yourself a favor and order one or both today. Go first class!

Make and model of cycle__________
For Custom Color, give official cycle color__________
Fiberglass Saddlebags
☐ Black ☐ White ☐ Custom Color $25.00 .... $______
☐ King Sz with Rear Refl—$119.50 ☐ With 12v Light—$129.50 ______
Striping—$15.00 pr ☐ Black ☐ White ☐ Gold .... ______
☐ **Bag Mounts**—$22.95 ☐ **Bag Guards**—$24.95 .... ______
Fiberglass Tote Box
☐ Black ☐ White ☐ Custom Color $15.00 .... ______
☐ Std Size—$79.50 ☐ King Size—$89.50 .... ______
☐ **Custom Trim Rails** (shown on Tote Box)—$9.95 pr. .... ______
Striping—$10.00 ☐ Black ☐ White ☐ Gold .... ______
Plus shipping and insurance (10% or $10.00, whichever is less) .... ______
Total Amount Due ☐ Check ☐ Money Order enclosed for .... $______

Send order to Accessory House, Box 1770-CB, Long Beach, Calif. 90801
and include your complete name, address and telephone number.
☐ $2.00—Rush me all the full-color Bates Accessory and Leathers Catalogs.

Product Evaluation

VICTOR COMPRESSION RELEASE



A clever innovation, the Victor compression release works as a starting and stopping device.

by Dave Holeman

● Compression releases of all types are very popular with off-road riders, especially those in areas where water abounds. No manufacturer has yet perfected a truly *water proof* brake. Some dirt bike's brakes become absolutely useless after crossing just one small stream. Others may fade gradually after repeated drownings; but all brakes fail after sufficient moisture has eliminated the friction between the linings and drums.

Compression releases have been around for decades. Diesel trucks use compression release devices, commonly called Jacobs brakes, as an auxiliary stopping method. However, because of the terribly loud motorized gargle a "Jake-Brake" makes as a diesel decelerates their use is illegal in most metropolitan areas.

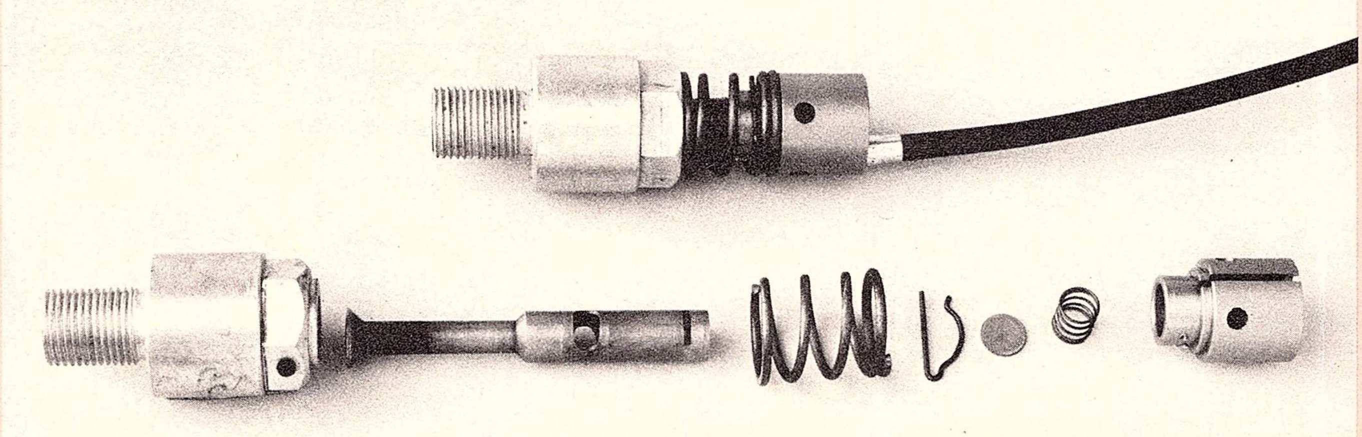
The use of conventional two-way compression releases in two-stroke motorcycles is of unknown origin. Compression releases were used in the early days of motorcycling in four-stroke motorcycles as de-compression devices. When fitted in the cylinder head or an upper location in the cylinder these manually operated mini-valves were used to let out a portion of the trapped gases. In the big single cylinder four-strokes this reduced the compression and kicking effort required to crank the engine.

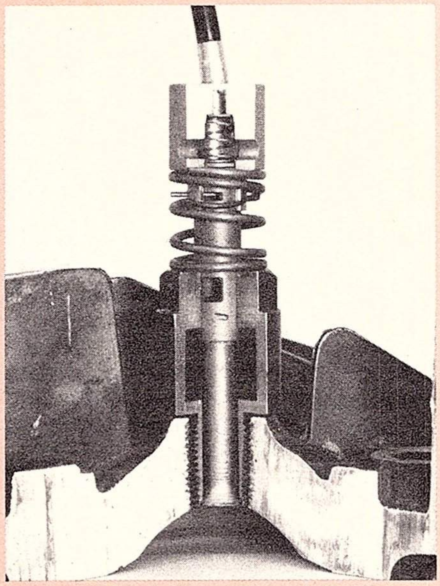
In two-strokes, a cylinder head located compression release performs a task opposite that in four-strokes. Excluding some cylinder located devices in big-bore engines, two-stroke compression releases are used to slow or brake the bike (ala diesels) or stop the engine. In effect a cylinder head compression release transforms a two-stroke engine into an air compressor motor when actuated. When the small valve of the release is opened it performs as a restricted intake and exhaust passage. On the up-stroke of the piston the compressed gases in the cylinder are forced out the release orifice. The absence of sufficient compression and a fuel/air charge (it escapes out the release) prevents ignition and combustion when the spark plug fires. On the down-stroke, an intake (work) cycle replaces the power stroke. The engine is now developing a work load rather than producing power.

Two-way compression releases remain open to atmosphere on both up (exhaust) and down (intake) strokes. The work load created as the piston lowers, pulling in air through the small compression release orifice, acts as a braking force. However there are problems with two-way releases created by its inhaling of outside air. In dusty regions various quantities and types of dust enter the engine through the release. The unwanted dust can accelerate top end wear. The most irritating side-effect of the dust intake is continual spark plug bridging from conductive silica particles that lodge between the electrodes.

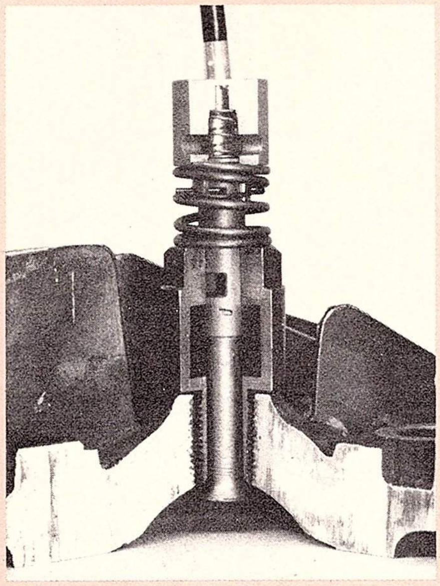
In wet regions the intake of outside elements can be serious if not fatal to the engine internals. Water entering the combustion chamber can cause a hydraulic lock in the engine. Bent connecting rods are often the result. Some machines will pull the head studs out or even break a piston if just a teaspoon of water gets trapped in the combustion chamber.

PHOTOGRAPHY: DAVE HOLEMAN, DALE BOLLER

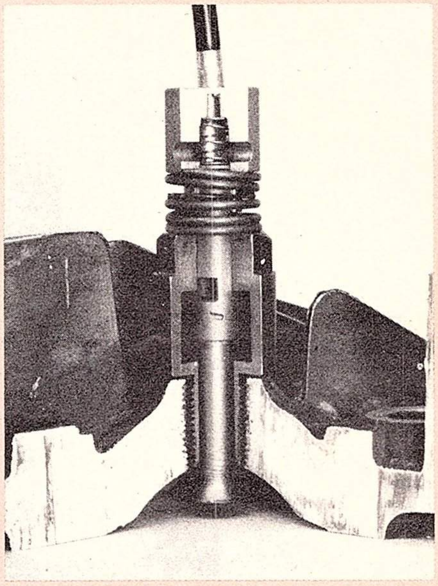




The complex construction of the release accounts for its start or stop application.



When opened partially the release chamber increases combustion volume.



Fully opened, the ported valve vents combustion one-way to the atmosphere.

Attempts to wrap water and dust-proof filters around compression releases have been failures. The simple solution of valving the top of the compression release with a spring loaded cap has solved the intake problems. A spring loaded cap allows the release to exhaust normally and closes the instant there is no pressure. This eliminates the intake of outside air. On the down stroke the work load is actually increased by having the combustion area sealed. As the piston lowers an increasing vacuum pressure is created. This vacuum develops a *work load cycle* that lasts until the exhaust and transfer ports are opened.

The Victor compression/starting release incorporates the one-way valving along with a unique feature. In addition to functioning as a braking or stopping device the Victor release also can be used as a starting aid for larger displacement two strokes. By making the body of the release large Victor has been able to include a special internal compartment. This small compartment acts as a combination passageway and, when properly valved, an addition to the combustion area volume. The simple function of the compartment is to increase the combustion chamber volume and therefore decrease compression.

To accomplish the two separate tasks of starting and stopping, Victor Products has invented a special *hollow* valve stem with port windows. The port windows are placed high on the stem so the valve must be fully opened before the release vents to atmosphere.

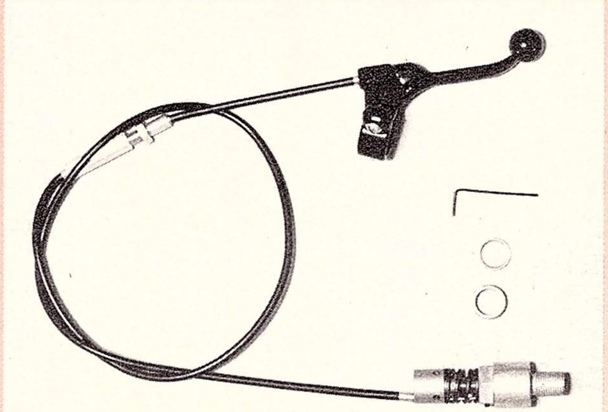
When the valve is opened partially the compartment remains sealed to atmosphere. The four-cc volume, when added to the existing combustion area, produces a substantial decrease in cranking pressure required to kick through an engine. An average 400cc single has a combustion chamber volume of about 35cc The additional four-ccs is just enough to aid starting without affecting the engine's ability to ignite the fuel charge and start.

There are numerous big-bore two-stroke singles that would be much easier to start with the Victor release—360/400/450cc Huskies, 400cc CZs, 350cc Kawasaki Bighorns, 360cc Bultacos and others. There are some of the big singles that come with compression releases but are still unpleasant to start. These bikes—360 Yamahas, 360, 400, 450, 501 Maicos and Suzuki 400s—will often start easier with the Victor release than with the factory de-compressor. When installed in 250cc engines the starting chore becomes that of a 125cc machine.

Installing the release can be done with the spark plug socket in your tool kit. The hex size on the release is standard 13/16″ (rather than 3/4″ hex bar stock used by most other compression releases). A 1/4″ spacer is included with the Victor release to permit its use in 1/2″ or 7/16″ spark plug holes. When screwing in the release be sure the cable is securely locked in its locating hole with the allen set screw before installation. It's almost impossible to get the allen wrench in the screw after the release is sandwiched between the fins.

Operation of the Victor release is simple. To start an engine, just pull the lever in about one-fourth its total travel. This opens the special compartment to the combustion chamber without venting to atmosphere. To use the engine as a brake or to kill it involves pulling the lever full-open. Now the release vents one-way to atmosphere.

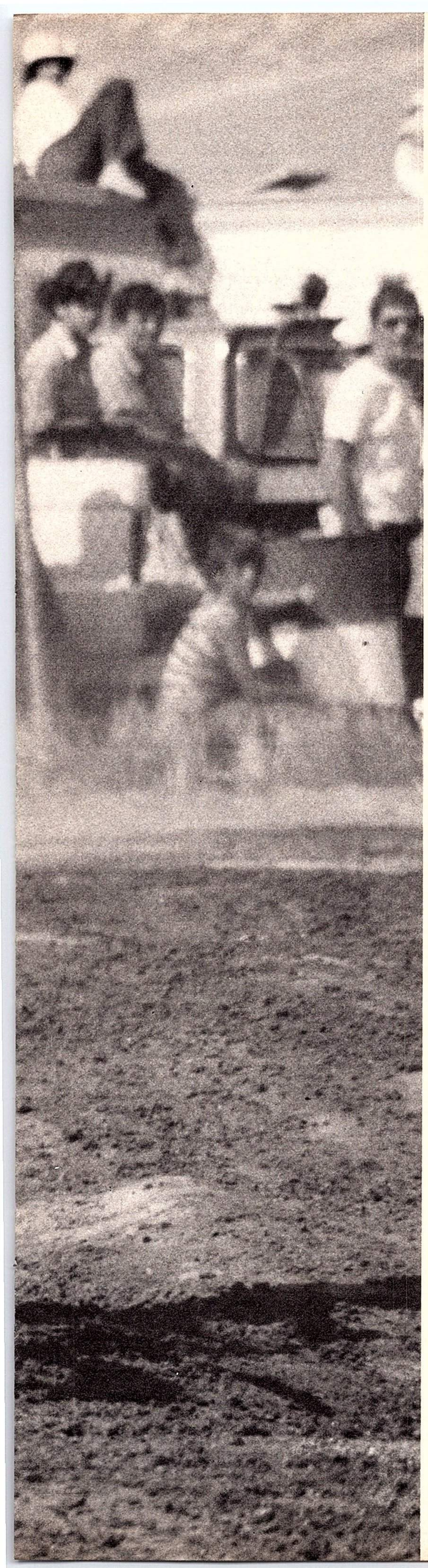
It's essential that you cinch down the compression release regularly. It has a tendency to work itself loose because of variations in expansion and contraction rates between the aluminum head and steel release. At intervals depending on the amount of use, the release should be disassembled and cleaned. Each time you decarbonize the top end or re-ring the piston it would be proper to clean the compression release. While you have it apart you can also lap the valve to the body's seat to insure against air leaks. By placing the body in a vise, the valve stem in a drill motor's chuck (while in the release body) and lapping compound on the valve and body seat faces,the sealing



The complete assembly includes the Victor compression release, cable, lever, ¼″ spacer, washer and allen wrench.

(Continued on page 91)

Kawasaki
Kawasaki
Kawasaki



by Sam Moses

Number One

● It is 3:00 on Thursday afternoon in early Autumn, and Jim Weinert, the new open class motocross national champion, of Goshen High School, Middletown, New York, class of '69, is absorbing one of the indirect rewards of his championship. He is skimming along the freeway half an hour south of Los Angeles in his virginal white BMW Bavaria, watching it click away another mile exactly every 45 seconds. He sets the volume of a bluesy Stephen Stills cassette half a notch above the surration of the six-cylinder engine, cocks his head back and stretches out his arms Jimmy Clark-style. A smug grin slides over his face, a relaxed look, but a look that concedes excitement. He is on his way to the Kawasaki race shop to test a new 400 motocrosser, just arrived from Japan for him to ride in the Fall Trans-AMA Series. And while he's there he's going to pick up his $20,000 bonus check for winning the championship. The grin pops into a chuckle.

Weinert flicks the new Bavaria back and forth between the metal lane dividers to show off its rock-steadiness at 80 mph. But then he thinks, and backs off a bit. "Better not kill myself," he comments sardonically. "Kawasaki wouldn't like that. I can see the headlines in *MotorCycle Weekly* now: "National Motocross Champion Dies in Freeway Crash on Way to Collect Big Kawasaki Bonus." He laughs. He's worked for that laugh.

* * *

"Some people feel that I just lucked into number one this year because Tony DiStefano broke his wrist. But we all had to race the same tracks and go through the same things; I could just as easily have broken my wrist, but I was smart. I tried to be professional and look at it like there was a lot of money to be made, so I just rode all the big AMA races, but Tony went to a local CMC night race at Indian Dunes and hurt himself.

"Tony still raced after he broke his wrist. But when I'd see him I'd say, 'How's that sucker, is it sore?' and he'd say, 'Yea,' and I'd say, 'Well, good. It could have been worse, you know. Man, you shouldn't have done that, racing at a local race. You would have probably made it tougher for me to win.'

"It happened during a six-week break in the series. I counted the weeks up and I said no way can he come back and be in shape. He tried hard, he really did, but I was getting all psyched for the rest of the series anyway. I told myself I had to win the last four, but if he took second in every one, he'd beat me by ten points. But I won the next three and clinched it, then took third in the last one.

"If everything had gone right in the beginning of the season I would have won easier. I wasn't even planning on doing that good in the first couple races because I was still weak from my broken collarbone in the Phoenix Trans-AMA last year, and it's hard to race like that. I didn't even race the Florida series in the winter. But I knew if I kept on thinking, 'God, they're all going so fast,' then I just as well might not race. So I was thinking, 'I'm fast, I'm fast, I'm in shape,' but I should have been saying, 'You ain't in shape because you've been off three months with a broken collarbone.' I went out with Brad Lackey a few times and I could stay with him for ten minutes then he'd wheelie away from me because I got tired, and I said, 'Uh-oh, I better do some more exercises and things,' and I did and I gradually got stronger. And here I am.

"I guess it would be better if there was no question about it, and no one was saying I was lucky, but who gives a damn how you win it? When you get number one, you got it. I don't care if it was just handed to me on a little platter and someone said, 'Here, we picked your name out of a hat.' I'd just say, 'Thank you,' and take it. Everyone works hard to be number one, and it's a long season."

* * *

Weinert virtually pitches the BMW into the alley behind the Kawasaki race shop and parks it beside the racing team truck, which is being loaded for the eastern leg of the Trans-AMA Series. The truck's broad back door is propped open; its shelves are stacked with pistons, exhaust pipes hang from the slats on the bulkheads, and some cylinders are scattered on the bed. Weinert's tuner, Jim Felt, will be leaving the next Monday morning for the first race in Unadilla, New York. Weinert will be flying.

Weinert walks into the shop and finds Felt fitting a plastic tank on the 400. The bike looks not only new, but radical: the frame is two inches lower than last year's, the fork springs are big and fat and outboard of the tubes, and there is a bulging upswept pipe with a tiny silenced stinger that disappears into the air box under the seat and doesn't come out.

"God damn," says Weinert. "C'mon Jim, it's already 3:30. We've got to test this thing at Saddleback this afternoon. Man, I told you all week I can't test it tomorrow because I've got practice at Riverside for the off-road race this weekend. (Which he won overall, beating all the cars.) We got to find some things out before you leave for Unadilla. I ain't getting on a new motorcycle the day of a race, all the way at the other end of the country. We only got a few hours of daylight. How much longer is it gonna be?"

Felt shrugs his shoulders. "We've been working all week, Jimmy. Why is it that you're so great at the races but during the week I'd like to lock the door because I can't stand you around here?

"Just don't worry about it," Felt continues. "All we have to do now is put on your grips and set the timing and find a long bolt for the gas tank. We'll have it out at Saddleback by 5:00. Just be there."

After getting instructions from Felt, another mechanic hustles out the door on a Kawasaki 500 street bike and heads for the nearest hardware store for a bolt to hold the tank on.

Weinert sighs. "Here's your typical organized factory race team in action. A new race bike comes from Japan and we run out to a hardware store to buy parts so we can get in a lousy hour's worth of testing before the first race."

* * *

"I never even got a 400 last year until the fourth race of the Trans-AMA. I had to ride the 450, which I really didn't like. It was a good motorcycle but I was used to a 250, and the 450 just had too much torque for me. So I told Kawasaki, 'Lookit, we have to change this thing,' and they said, 'But Brad Lackey got Number One on it,' and I said, 'Well, that's Brad. He wanted to win so bad he probably could have won on a pogo stick.' I told them that if I had ridden this bike before I signed, then I wouldn't have signed.

"So a little Japanese man, Sid Saito, said to me, 'We will build 400 and you will get first 400.' I was really surprised that they would give it to me because Brad was the Number One rider at that time. But I said, 'You give me that 400 and I'll do something with it.' You got to talk a little strong at times.

"I got the 400 and I liked it because it was more like a 250, and Steve Johnson and Jim Felt really had it working right. I started to get first American a lot and I won Houston, the first American ever to win a Trans-AMA. Then the next week I broke my collarbone and that was it for the year. But I'm glad it worked out because I told them I was going to do something, and I did it."

* * *

Weinert saunters—his walk is sort of a mobile slouch—across the alley to the white-collar side of Kawasaki and eases toward the office of Yoichi (Vic) Iwata. "Some people at Kawasaki don't even know I'm Number One yet," he says with a certain measure of annoyance. But Iwata knows why Weinert is there, and before Weinert says anything Iwata takes the bonus check from his top desk drawer and, smiling, holds it out with both hands for Weinert to take. Which he does.

Weinert stares down at the check, holding it in front of his stomach with both *his* hands. The snug grin returns, as a slow and muffled "whewwwww" comes from his drawn lips. And his ears turn red.

"I wanted to save for party," says Iwata.

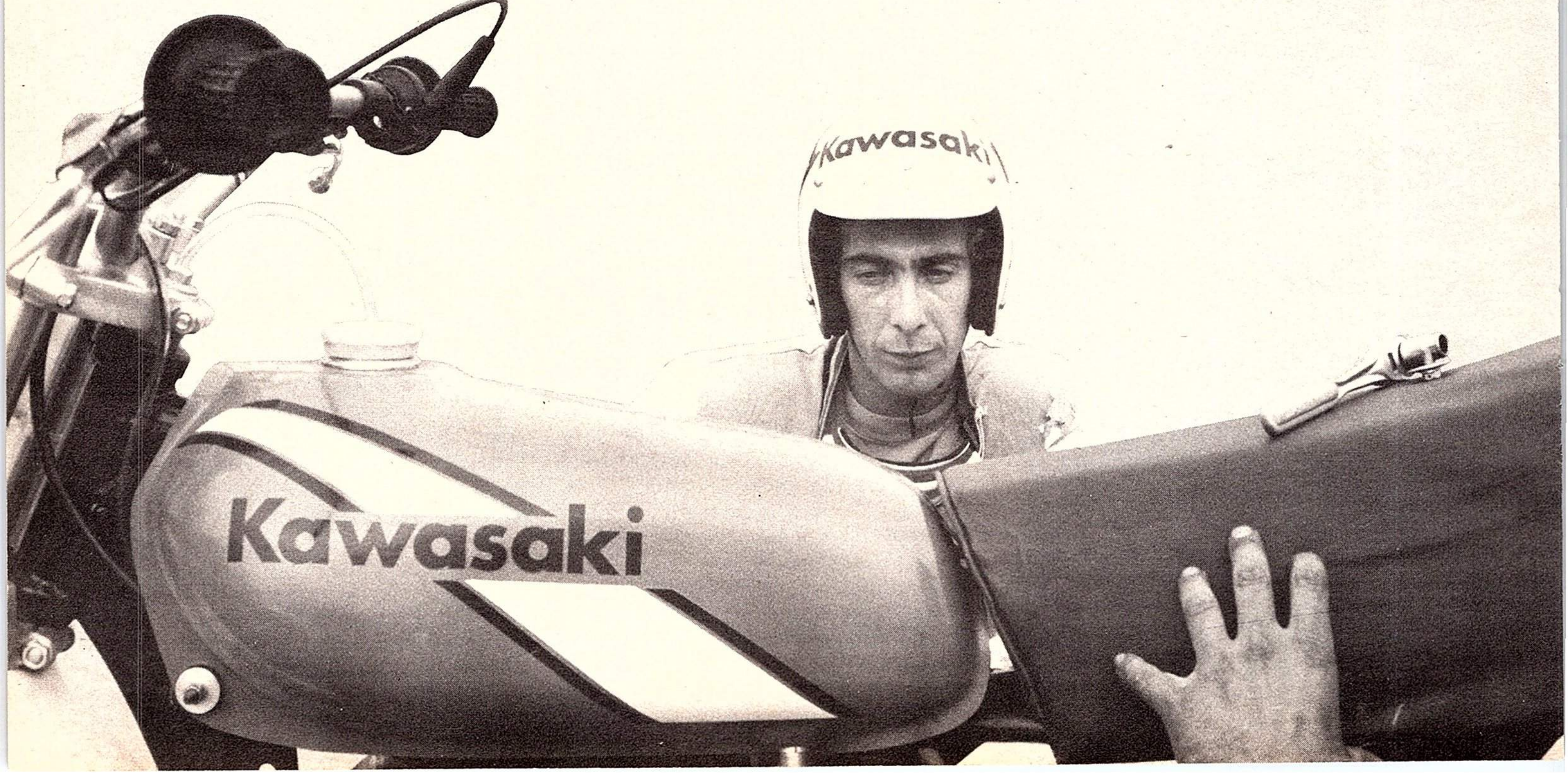
"Hey, give me an empty envelope at the party," says Weinert. "Just make sure it's a good party, with all the riders and mechanics and the magazine people. Let's have it at the same place where Yamaha had Karsmakers' last year.

Iwata agrees, and Weinert seems satisfied. On the way out of the office he stops at the Xerox machine and makes five copies. "Now I got me $100,000," he cracks. "I think I'll wallpaper my bathroom with these.

* * *

"I should have been the national champion in the 250 class in 1973, but I had so many breakdowns it was disgusting. Gary Jones won and I ended up fourth. "If I had stayed with Yamaha I probably would have been Number One in 1973, but that's life. I left Yamaha because I had some bad experiences there and I just wanted to get away. It was a drastic change, but it turned out for the better.

"In 1972 Jones and I were teammates on Yamaha and he won the 250 champi-



PHOTOGRAPHY: SAM MOSES

"Europeans are Banzai Joes
because they know they
have to get there first,
its so competitive
over there.
You can't shut off,
you can't be afraid of them,
you just have to show them
you're not afraid to
run them off into a tree
or something, because that's
what they'll do to you."

onship that year too, and I finished second. Don Jones, Gary's dad, was in control of the team, so Gary got all the good stuff. We had a few fights, me and Gary and the old man Don, but never any fistfights—Gary knew better than to mess around with me because he knew that he would probably get the short end of the stick. We had it out for about a year, a lot of verbal things, but it's all straightened out now—we finally came to a truce. I think he's learned a lot and mellowed out now; he just screwed up before, that's all.

"Gary got Number One, and deserved it—anyone who gets it deserves it because it's a hard road—but we didn't even realize what Number One meant then, so we didn't take it seriously. No one did. It wasn't anything until the end of the season when they said Jones was Number One, and I go, 'Oh god damn, what did I do?'

"Also I was kind of dumb that year, because I helped block for Gary in the Inter-AMA Series. Helping him win the series went against me; I wasn't thinking about it going for national points."

* * *

Weinert hunkers into the blue leather bucket seat of his BMW and drives back onto the freeway, weaving through rush-hour traffic that creeps nervously at 30 mph. Suddenly he cuts across two lanes and accelerates down an off-ramp.

"I know a shortcut to Saddleback," he says, anxious but not impatient.

When he arrives at Saddleback, Felt is unloading the 400. Weinert quickly changes into his leathers and shoulder pads and in an instant he is on the bike. There are only a couple riders on the track; one of them is Rex Staten, a factory Honda rider practicing on a CR-250. Felt leans against the redwood-stained slats of the snow fence, watching as Weinert and Staten immediately find each other on the track. They start going faster.

"Nooooooo," moans Felt, his eyes rolling in disbelief. "He's *not* racing on a new bike . . . he's smarter than that . . . I think."

For five or six laps Weinert leads Staten by barely feet, occasionally peeking over his shoulder at him. Sometimes they're side-by-side, but Staten never gets ahead; after a few more stalemated laps Weinert rides back to the van.

"How'd I look?" he asks excitedly, tugging at the chin-strap on his Magnum.

Felt is already twisting out the hot plug. He doesn't look up.

"Better than you've looked in a month," he says, into the spark plug hole. His reply comes tight-lipped and begrudgingly, and he carefully avoids encouraging Weinert to go any faster.

"Was Rex out of control?" asks Weinert, hoping for a positive answer from Felt, which he doesn't get and doesn't wait for. "I was just cruising. A 250 can beat a 400, the track is so hard today. Christ, a good *125* could probably beat a 400 today."

Felt fits another pair of rear shocks and Weinert does a few more laps before quitting for the day. The carburetion is too lean and they have no main jets, and the fork oil needs changing. The sun has already set, so there is no time to tinker.

Weinert scurries back over to the fence to watch Staten, who is trying to pass a hot-shot local. As they go by, Weinert leans over the fence and waves Staten on.

"C'mmmonnn Rock-et Rex!" he shouts. "Boy, he's a wild man," Weinert says as Staten sails around a berm. "He works *so hard* on the bike."

Staten finally passes the kid, and on the next lap Weinert waves him over. Staten immediately spots the BMW.

"When'd ya get that?" he asks. "What is it, a Fiat?"

Weinert winces. "It's a BMW."

"How much they get for that, twenty?" asks Staten.

"Naw, only eleven-five," says Weinert, with an air of nonchalance.

"That all?" says Staten.

* * *

"I'd like to go over to Europe next season but I'd lose too much money. I think one more year here and then maybe I'll go over. I think I can do pretty good.

"Last September I went to Sweden for the Motocross des Nations just after I won the championship. The big difference over there is that when you pass a guy he doesn't always stay passed like he does over here. Lackey got the hole shot in the second moto at the Motocross des Nations and then he said, 'God damn, I'm going awful fast in this turn,' and he shut off and 15 guys went by him. I asked him, 'What in the hell did you shut off for?' and he said, 'Hey, it's scary out there.' And then I remembered a couple times last year when I got the hole shot in the Trans-AMA. You have to hold it wide open through the first turn, and you pray when you get there. Really. Europeans are Banzai Joes because they know they have to get there first, it's so competitive over there. You can't shut off, you can't be afraid of them, you just have to show them you're not afraid to run them off into a tree or something, because that's what they'll do to you.

"At the Motocross des Nations I was pumped, I was gonna do good, I was gonna tear 'em up. I nearly got killed. In the first moto this CZ rider looped in front of me and his bike knocked me off and 15 other bikes piled up. And I go, 'So this is Sweden, huh?' In the second moto I was doing okay until the gear lever fell off and I got stuck in second gear. I was still way back in about 13th or 14th when that happened, but I had to start in the second row. The four of us on the American team, me and Jim Pomeroy and Brad and DiStefano, we took time trials to see who was the fastest and get the front row, and I can't go fast in practice; I can only go fast in the race. Brad and Pomeroy are used to that because they race in Europe, and I guess Tony was pumped, so Pomeroy had the fast time, Tony had second, Brad was third and I was fourth. I said, 'Well, if that's the way you guys want to do it, I don't care,' but I probably should have done like everyone else: You know, if you're the Number One rider in your country, why should you start in the second row? DeCoster didn't start in no second row, and Heikki Mikkola, and all the good guys from the other countries. But I didn't pull that because that's kind of mickey-mouse. I said, 'Let's just pull names out of a hat,' and Pomeroy said, 'No, we gotta go time trials.'

"I don't care. What can I say? He's the hero. He's still living off his Grand Prix win. How many years can you live off something like that? Now he's going on his third year. I won a Trans-AMA and everyone forgets that. Pomeroy comes over to the Trans-AMA and doesn't do anything. 'I'm a Grand Prix rider,' he says, 'I need a rest.' Well so was everyone else from Europe, and they go fast over here. You never need a rest until you're Number One, then you take your rest.

"Grand prix riders, Agh. Last year at the Trans-AMA Torleif Hansen expected all the best Kawasaki parts just because he was a factory grand prix rider. 'I'm the number one Kawasaki rider and don't you forget it, bay-bee,' he says, shaking his finger. Ha. This year I'm Number One and he only got fifth in the world championship. I can't wait to see him over here."

* * *

Weinert drives home along the narrow road through Trabuco Canyon, a 5.5-mile stretch of curves that begins at a small fork called Cook's Corner and ends in a new development community called Mission Viejo. The road is well-known among cafe racers; signs mark an unofficial start and finish, and the object is to pass the first sign at Cook's Corner at exactly 50 mph and reach the Mission Viejo sign in less than four minutes.

Weinert concentrates as he drives, commenting that the BMW's drifting point is always a few miles an hour faster than it feels like it ought to be, and how he isn't really smooth with the car yet, especially with the clutch and four-speed gearbox. 'But I'll get the feel of it in a few more hundred miles,' he says. There is little traffic on the road; he only passes two cars, and they are together on a short straight. Weinert leans on the horn as he goes by, at least 50 mph faster than them.

He reaches the Mission Viejo sign in 4:04, a fast time for his first attempt in a new car; in fact a fast time for any car. He asks what the record is.

He pulls into his driveway and walks directly across the lawn to Pierre Karsmakers' home. Weinert lives next door, in a new house that is nearly identical to Karsmakers'. In Karsmakers' driveway is a 1973 BMW Bavaria.

Karsmakers comes to the door, his hair still wet and uncombed after a shower. Earlier that afternoon he had trained alone, by riding two 45-minute moto-like sessions at Saddleback; Weinert has never trained that hard in his life. Weinert whips out his bonus check and just smiles.

* * *

"I remember when Pierre first came over, we almost got into a fistfight down in Florida. Brad and I were in about 7th or 8th position, going for first American, and this guy was behind me running into me and things. At first I didn't realize he was there because I was so much into racing with Brad, but then I heard him yelling and screaming and I said, 'Oh wow,' and I let him pass. He came over to me after the race and he says, 'You should have moved over, I'm the Dutch champion and I'm faster than you,' and all this, and I'm going, 'Hey, I don't give a damn who you are, I'm out here racing, trying to be first American.' I said, 'I always move over when I see you guys coming, but I wasn't thinking about that this time. If you can't handle it, well . . .' We had a few more words, but then he apologized because he knew he was wrong, and I apologized too. We're pretty good friends now, but like I tell him, 'Hey, on the race track I don't give a damn, man, you're my enemy. If I have to run over you I'll run over you. That's money out there.' He'd do the same thing. That's

(Continued on page 87)

CAN-AM DISTRIBUTORS' LIST

United States

ELLIOTT & HUTCHINS
East Main Road
MALONE, New York 12953
(New York, New Jersey, Pennsylvania, Massachusetts, Connecticut, Rhode Island, Delaware, Maryland)

TIMBERLAND MACHINES
10 North Main Street
LANCASTER, New Hampshire
03584 **(Maine, New Hampshire, Vermont)**

CRAIG TAYLOR EQUIPMENT
733 Whitney Road
ANCHORAGE, Alaska 99501
(Alaska)

BOMBARDIER CORPORATION
325 South Lake Avenue
DULUTH, Minnesota 55802
(All other states)

Canada

BOMBARDIER (QUEBEC)
1350 rue Nobel
BOUCHERVILLE, Quebec
(Province of Quebec)

BOMBARDIER (ONTARIO)
28 Currie Street
BARRIE, Ontario **(Province of Ontario)**

ATLANTIC SKI-DOO
P.O. Box 670
SHEDIAC, New Brunswick
(Maritimes)

BROOKS EQUIPMENT
1616 King Edward Street
P.O. Box 985
WINNIPEG, Manitoba
(Manitoba and Saskatchewan)

TRACT EQUIPMENT
14325, 114th Avenue
EDMONTON, Alberta **(Alberta)**

ALPINE DISTRIBUTORS
P.O. Box 159
VERNON, British Columbia
(British Columbia)

To find out the name of your nearest ***can-am*** dealer, contact the distributor in your area.

can-am* spells Handling

— Frame rigidity based on perfect triangulation.
— Adjustable steering head to suit your riding style.
— New long-travel suspension sets new standard for superb overall handling control.
— Technically advanced transmission permits immediate start-up in any gear.
— Front fork features breather valve to ensure consistent action.

Straight-line performance is the best proof of CAN-AM* chassis rigidity. The double-loop high tensile steel frame incorporates engine as integral part. The massive main tube, extending from seat to head stock, not only adds to overall frame stiffness, but also serves as the engine oil reservoir. To accommodate longer travel rear suspension on MX models, a completely new frame was designed to allow forward-mounted shocks a precedent-setting 6 inches of travel. The result is extremely precise control. Chain geometry is preserved through the use of the swing-arm pivot bolt as the rear engine mount.

The rugged constant mesh rotary cam transmission allows positive shifting and quick in-gear starting. The strong multiplate, oil-bathed clutch is driven by straight-cut primary gears. Betor front fork, specially designed for CAN-AM*, provides longer-travel, but, to assure consistant free performance, a 2-way breather valve controls air pressure. Hydraulic air lock is thus prevented which means a smoother ride with no loss of travel under severe conditions. Fingertip control characterized by exclusive steering head design which permits complete adjustability through twelve ½-degree increments from 25 to 31 degrees. Adjustment takes place within the steering head to let the rider select the fork angle most suitable for his particular style and riding conditions.

**Beat the "cc" habit!
Learn about performance.
Divide the weight of your motorcycle by its usable horsepower. The resulting power to weight ratio indicates how many pounds each horsepower has to carry. That's what Index of Performance is all about.**

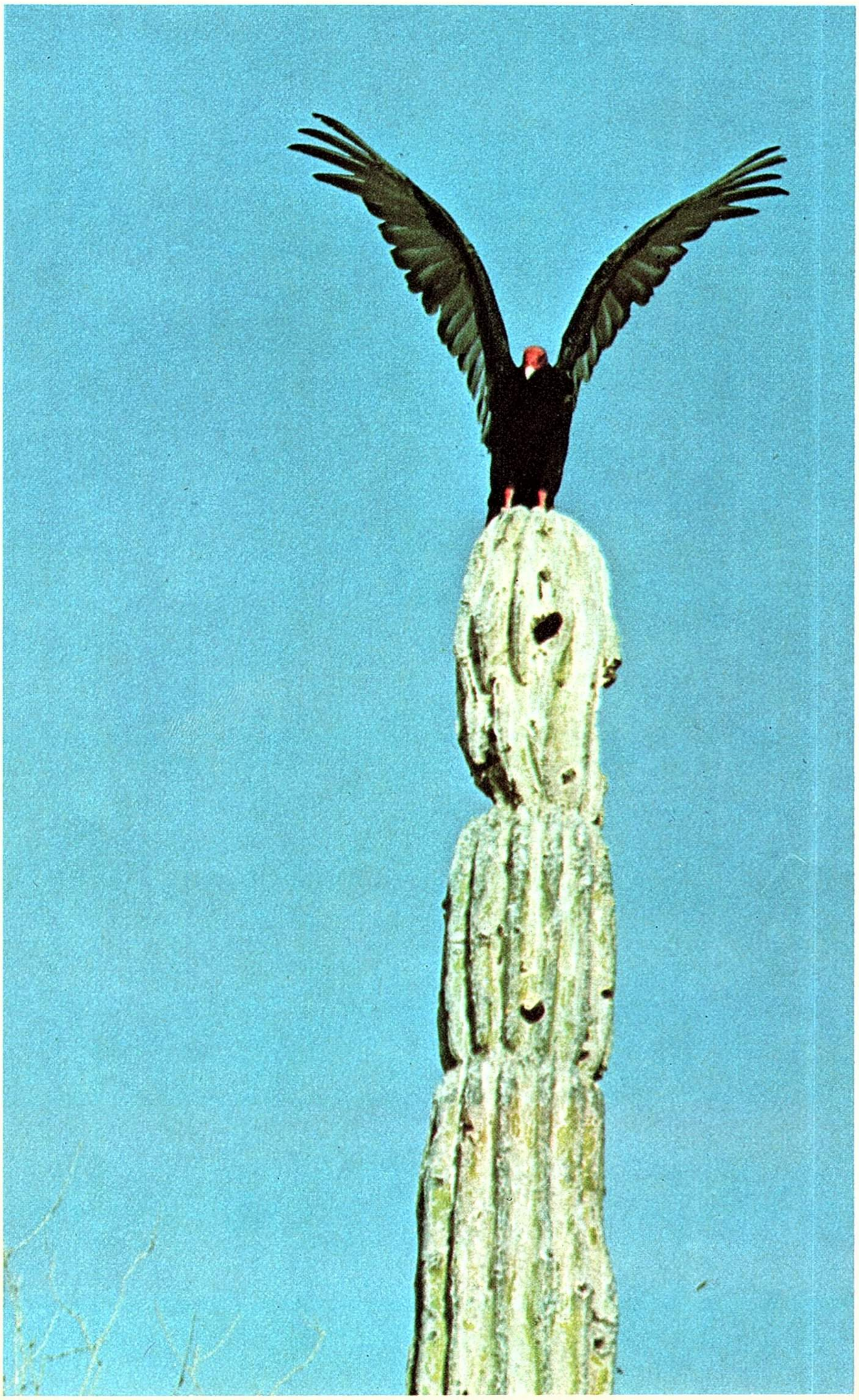
can-am*
motorcycles by bombardier

CIRCLE NO. 46 ON READER SERVICE PAGE.

*Trademarks of Bombardier Limited. All rights reserved © Bombardier Limited. Nov. 74

Because they thought they could do it, and because it had never been done before, 18 kids backed by the YMCA decided to try to ride CT-70 minibikes from Tijuana to Baja's southern tip. What happened? Everything. By Pat Sine.

The Baja Bruisers



● Typical. The tiny, bobbing caravan of minibikes and support vehicles had been flickering toward Agua de Leon, seeing signs and imagining the soft coolness of a swim in the lake for much of the first day. They arrived lake-side at 10:30 that evening and discussed whether they should go ahead and dive in, or wait until the sun came up the following morning. Expedition leaders convinced the kids that, for safety's sake, swimming in daylight was the plan. Cold tuna fish sandwiches for supper, sleep, and up at 5:30AM, towels at the ready.

The lake . . . was a dry lake.

The expedition's objective was clear enough: put 18 kids, ages 12–16, on 18 Honda CT-70 minibikes, and ride 1221 miles from Tijuana, Mexico to the southern tip of Baja California. Just to see if they could do it. The kids had become involved initially with minibikes when Honda Motor Co. had responded to a request from the YMCA by providing no fewer than 2500 CT-70s. The YMCA's National Board had organized an Outreach program, National Youth Project Using Minibikes (NYPUM), to distribute the bikes to local affiliated youth groups. To get in on the program a youngster had to study bike safety and maintenance, and show improvement in his school work. And to get in on the Baja trip a kid had to be a good rider and a profoundly improved student. John Gonzales, director of the NYPUM program at the Casa Maravilla social service center in East Los Angeles and the trip's supervisor, set strict requirements: the riders had to pass a written test on Baja geography and climate, take a crash course in first aid, and through various car washes, rummage sales and candy and peanut sales, raise nearly $1000 for food, gas, bottled water, and insurance.

To practice up for the outing the kids hurled themselves at the most vicious terrain they could find in Southern California. As it turned out, though, Mojave's Jawbone Canyon and Sespie Creek in Ventura County were only the palest facsimiles of Baja's harshness.

Three adult leaders on an SL-100, XL-100 and CT-70, and three drivers of a jeep and two supply vans, each pulling a trailer to carry the bikes to the border, accompanied the kids when they left Los Angeles. Senor Francisco Abalos, Chief of the Baja Police, and two assistants met the caravan in Tijuana just south of the California border and gave them a motorcycle escort through the town. They hit the dirt just south of Tijuana the next day, and rode 52 miles in the 110 degree heat. It was to be the coolest day of the trip.

From the beginning the going proved rougher than had been expected. The oppressive heat, the inescapable dust, and the rock-studded mountain roads that disintegrated into wild burrow paths in major sections were all—and worse—than the guide books said they would be. To beat the heat the group began riding at night, travelling single-file 10 to 12 spaces apart.

The excursion quickly became a lesson in survival. When the riders found that their two one-quart canteens of water didn't last long in scorching 114 degree heat, they learned to ration themselves. When spills became so common that the kids began to refer to themselves as the Baja Bruisers, they treated their scrapes and contusions quickly and mastered the art of grin and bear it to keep the caravan moving. When they were camping in unsettled territory, far away from the fresh fish dinners seaport villages had to offer, they ate canned tuna and fruit and raisins and crackers with only a few complaints. When the rutted, rock strewn trails collected its toll in broken rims and forks and shattered head- and taillights, the riders got out the tool kits and repaired their own bikes. If minor repairs could not be made during the run, the bikes were loaded on the vans and repaired at the next campsite.

As the group progressed southward, the trail grew worse. Tourists in 4-wheel drive Jeeps took one look at the minibikes, shook their heads in disbelief, and insisted it couldn't be done. When the group arrived at the town of Puertocitas on Thursday, June 27, the predictions of failure grew ominous. To get to the next town, Okies Landing, only 16 miles away, they would have to cross the meanest terrain in Baja. Having already pushed their way over what they considered the roughest roads imaginable, they knew they could expect the worst.

". . . the Baja Bruisers treated their scrapes quickly to keep the caravan moving."

The Bruisers took off at 9:30 p.m. on the terraced staircase of rocks that wound across the mountains with straight drops of a thousand feet to their right, and rugged cliffs to their left. Each rider depended on the lights of the bike in front of him to keep him on the trail and out of danger. Progress was painfully slow. The vans, which had been pulled by the jeep over the rough spots on several previous occasions, were now totally dependent on it. Frequently caught between the boulders and ruts, the vans had to be constantly pulled up the steep hills. Towing chains broke; the trailers that carried spare parts were jolted apart, spilling and bursting water containers and tool boxes; but six hours, dozens of bruises and copious repairs later, the group succeeded in reaching their destination.

After the Okies Landing ordeal, the youths knew they could handle anything and pushed on to La Paz and Cabo San Lucas, the tip of the peninsula. They were able to make good time in the final stretch as the rugged mountains turned to gentle slopes and shade trees replaced cactus. When the Baja Bruisers pulled into Cabo San Lucas and plunged victoriously into the Pacific, all 24 people had made it. It had taken nine days. ◉

CARRUTHERS

AT THE TOP

by Jess Thomas

● Kel Carruthers is an indispensable half of the most powerful single influence on road racing in the United States. Yamaha and Carruthers inseparably share that distinction. For the talents, resources, and genius of these two giants have been in an increasingly symbiotic relationship since Carruthers showed up here before Daytona in 1970.

Carruthers had backed into the 350cc World Championship title the previous year after Benelli teammate Renzo Pasolini's injury allowed him access to the "good" engines. Benelli had hired Carruthers to ride in support of Pasolini's championship challenge. It was the best deal the Australian National Champion could get in his third year of European racing after his battered old Norton singles had become hopelessly uncompetitive. He had done particularly well on his own 125cc Honda twin, but there was more money to be made with the bigger bikes. Carruthers' Honda experience had led him to try getting a pair of the fast and reliable Honda 250 and 305 production racer twins, but none were to be had. The year with Benelli brought Kel a World Championship, lots of modified promises regarding money and machines, and no racers to ride for the coming year.

One of the essential physical traits for a successful racer is a large and straight wire connecting mind and eye. Carruthers had made good use of his in taking note of the fact that privately entered Yamahas had gotten faster and stronger during his Benelli year. They were absolutely the best bet for a privateer effort, but once again there were none to be had in Europe.

Someone tipped Carruthers about Don Vesco, and a transatlantic call to El Cajon (near San Diego) produced the promise of a pair of rebuilt last-year's racers. When Carruthers came to get the bikes, Vesco talked him into staying long enough to ride Daytona. Carruthers was flabbergasted at the scope of Daytona: the number of participants, the quality of their machinery, the safe circuit, and far from least, the money. He won the Lightweight race after a stirring tussle with Gary Nixon and Rod Gould, then deftly performed the only significant Yamaha thrust into the leading Triumphs, Suzukis, and Hondas in the main International Formula 750 race on Vesco's little 350 twin.

Carruthers took his 250 and 350 Yamahas back to Europe to defend his World Championship. Things didn't work out so well for Kel in Europe that year. His 250 kept breaking while he was leading races. An especially grating aspect of the machine failure was that he could not get the new electronic ignition system from the Yamaha factory team, which was there to support Rod Gould, Kel's strongest competition in the championship points battle. Though he finished second to Gould in the 250 chase and second to Agostini's M-V in the 350 class on his private bikes, Carruthers was down at the end of the year. He has always regarded racing as more of a business than just a pleasant pastime. Two seconds were not as good business as one first, and that didn't make him feel sufficiently rewarded. He had scratched and clawed his way to a World Championship and was neither rich, famous nor adored for his considerable efforts.

The Carruthers family, by now filled out with a teenage daughter and a small boy as well as Mrs. Jan Carruthers (mother, secretary, correspondent, cook, and camp-keeper), decided to stop off in the 'States to get a better feel for the country by fleshing out their original quick impressions from the short Daytona visit. Upon leaving Europe, their basic plan was to return to Sydney and expand the family retail motorcycle agency.

Once here, Kel was free to operate without being preoccupied with thoughts of World Championships and Europe and such. As he went from race to race, operating in partnership with Don Vesco's team, Kel could see the incredible dollar investment made by the huge number of participants at any given race. It was a timely year for Kel and Vesco to do as well as they did. Yamaha had decided to support the strongest independents in lieu of an official factory team. Spare parts and bonuses came in proportion to results. Before Carruthers had decided to race for Vesco for the year, Cal Rayborn had agreed to ride all the Lightweight races for Vesco. H-D did not have a competitive Lightweight at the time and reluctantly released their superstar to show his stuff. The incredible strength of the Carruthers-Rayborn-Vesco team absolutely dominated the Lightweight class all year,

and Kel gave Yamaha their first-ever AMA National Championship win at Atlanta. In fact, Kel played giant-killer all season, sneaking the little 350 among and ahead of the thundering 750s.

Inspired by the wins and near-misses in 1971, Yamaha's brass decided to bring the racing back under the official yellow and black banner for the following season. The air-cooled twins were only slightly down on power, now sported six-speed gearboxes, and their light weight made them extremely maneuverable.

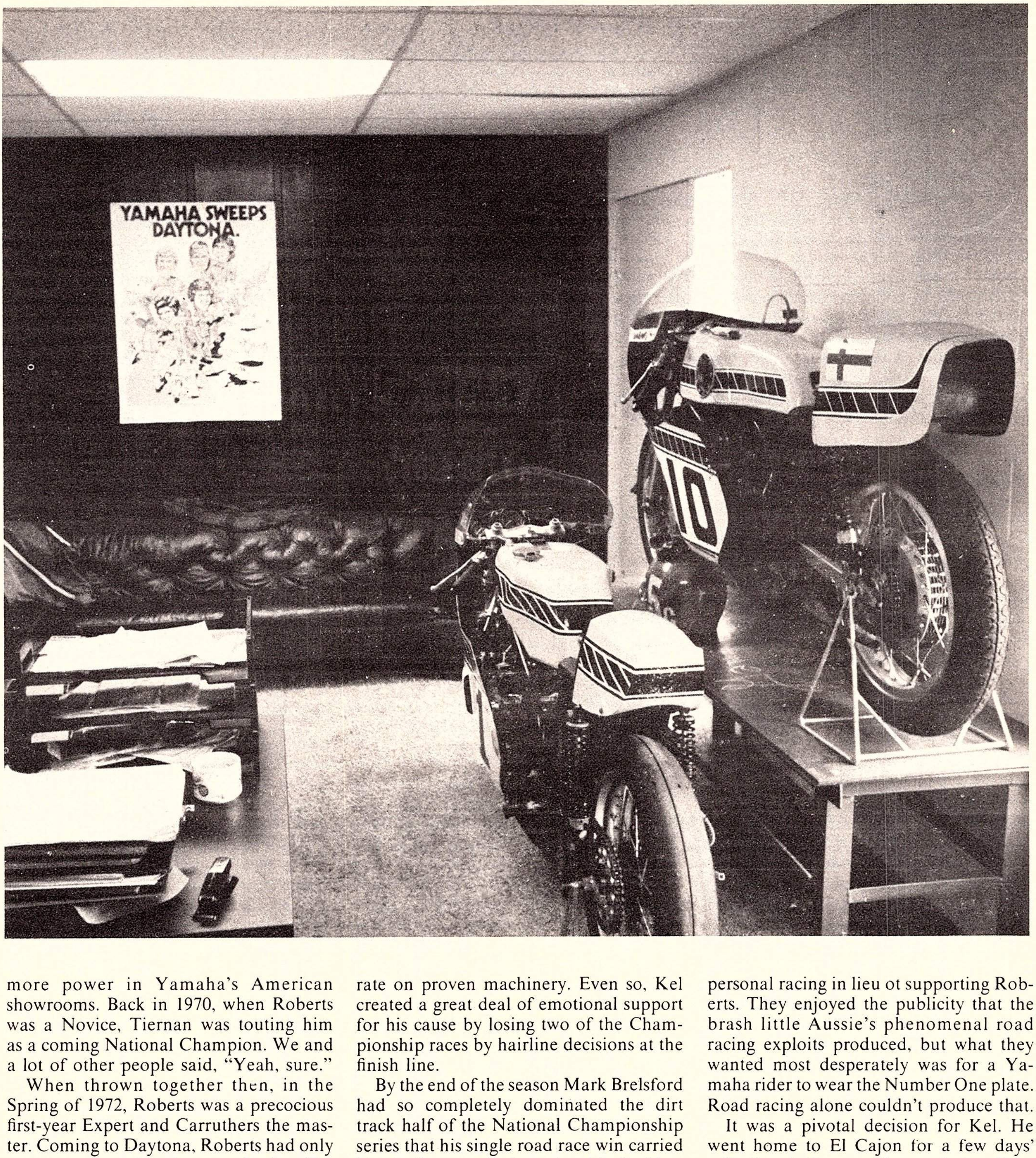
As with many other technical endeavors, racing is very much a constant compromise between absolute maximums and economies. The management of this compromise requires the services of an astute technical tactician: one able to juggle the strengths and weaknesses of his team so that they add up to an advantage as compared with those of the competition.

Yamaha's management thought Carruthers probably possessed qualities necessary to succeed where others before had failed. They needed someone who could translate the deficiencies of a motorcycle racing system into terms understandable to designers, engineers and businessmen. From their dealings with him regarding contracts and bonus rates, Yamaha's people knew that Carruthers had a respect for, and would respond to, money.

But there was a matter of conscience on the parts of both Yamaha and Carruthers. Don Vesco had gone considerably out of his way to make it possible for Carruthers to stay here and race and live. And Don Vesco is one of Yamaha's better bike dealers, as well as a racing team sponsor of legendary success. Although neither party will identify the point of contention, there have been periods of obvious friction between Vesco and Yamaha. There must have been a great deal of moisture in Carruthers' palms that night he went to Vesco's house to spread all his cards out on the table—the same house and table he had come to know so well during his first days in a strange land.

It should go without saying that Vesco wasn't ecstatic about losing his star rider, but he wished Kel no ill in his new venture. The deal was signed and Carruthers was immediately involved with preparing the Daytona machines for himself, Keith Mashburn, Jim Odom, and the promising rookie Ken Roberts.

Roberts may have been one of the main incentives behind hiring Carruthers. Terry Tiernan is the chief non-Japanese in Yamaha's motorcycle division. He absorbed a lot of abuse from contemporaries who worked for the English bike importers during his and Yamaha's early years in the market-place. After all, how could a fellow take those buzzing, smoking little Japanese turkeys seriously, when it was the big man-sized boomers that won the important races? Even after Yamaha won World Championship road races, Tiernan thirsted for an image that would have



more power in Yamaha's American showrooms. Back in 1970, when Roberts was a Novice, Tiernan was touting him as a coming National Champion. We and a lot of other people said, "Yeah, sure."

When thrown together then, in the Spring of 1972, Roberts was a precocious first-year Expert and Carruthers the master. Coming to Daytona, Roberts had only a season of road racing as a Junior. Despite the hindrances of inexperience and having to sort out entirely new bikes, Roberts placed second to Dave Smith, who was riding Kel's Vesco 250 from last season, in the Lightweight race, and qualified in the front row for the National Championship. Only a flat tire during the race prevented a probable win.

Carruthers made his mark as a tuner and manager that year, gaining more and more respect, and autonomy from Yamaha, in the bargain. He tried all the experimental tricks on his own machine and left Roberts to learn at an incredible rate on proven machinery. Even so, Kel created a great deal of emotional support for his cause by losing two of the Championship races by hairline decisions at the finish line.

By the end of the season Mark Brelsford had so completely dominated the dirt track half of the National Championship series that his single road race win carried him to the overall championship for Harley-Davidson. Nevertheless, Yamaha was so enthused by the combination of Roberts' progress as a road racer and the potential of their own 750cc four stroke twins to complement Roberts' already developed dirt track genius, that they decided to pull out all stops in backing Roberts for the next year's title chase. Carruthers was already so involved with development work (and the resulting inter-Yamaha quadruplicate memos) that he felt his own racing enthusism was suffering. And then the Yamaha brass came to him with the proposal to further limit his personal racing in lieu ot supporting Roberts. They enjoyed the publicity that the brash little Aussie's phenomenal road racing exploits produced, but what they wanted most desperately was for a Yamaha rider to wear the Number One plate. Road racing alone couldn't produce that.

It was a pivotal decision for Kel. He went home to El Cajon for a few days' reflection before making a choice. Here he was in the familiar mild climate and acrid-sweet smell of Eucalyptus trees, similar enough to an Australian homeland; now thirty-three years old and making plenty of money for the security of his four-and-a-half member family. It was a logical enough step to make: his relationship with the Yamaha people was steadily improving and there was always the promise of more and better. But still, it was a radical upheaval in personality and style to consciously change from absolute and staunch self-reliance to a more wispily defined group effort. Logic won out (predictably, for Carruthers), and he agreed to Yamaha's proposal.

The new machines for the 1973 season posed a whole new set of problems. There was no serious competition for the 250 twins in the Lightweight class, there were no championship points to be garnered with them, and they were almost identical to last year's models. But once again Yamaha fielded a 350 twin to battle an expanding field of 750 multis. This time, though, it was water-cooled to better control the effects of the necessarily high compression ratio. After the main bugs were eliminated at Daytona, Jarno Saarinen outraced and outlasted the big-engined competition to win outright while the new tuner-manager-racer Carruthers went out and "rode around" for 200 miles into second place. Roberts, the prodigy, had been so painfully injured in a pre-Daytona play bike accident that he had to quit the race after only a few laps. That, after qualifying for a second row position.

A phenomenally steep learning curve and vast quantities of extremely experienced assistance, backed with considered amounts of Yamaha's money, allowed Roberts to edge out Triumph's Gary Scott for the title of American Motorcycle Association Grand National Champion at the end of the season.

Yamaha was quite naturally delirious with joy. Carruthers showed the same symptoms, but the cause of *his* delirium was fatigue. At Roberts' award banquet, Kel said that he hadn't been up for a single one of the few races he allowed himself to ride that entire year. None of the effort and self deprivation went for naught, however, for Yamaha's management and engineering people were so impressed with Kel's strengths in their combined fields that they met to work up an offer they felt he couldn't refuse.

Kel Carruthers was offered a contract to provide a complete service for the entire Yamaha Road Racing Team. Improvements, normal maintenance, transportation—everything. The fee was sufficient to lease shop space near his home, hire the necessary help, buy the tools and other incidentals and pay himself a decent salary. For sweeteners in the deal, there were bonuses for race wins and championships retained and resting on top, like a big rock-candy mountain, was the ideal set-up for an ex-racer: a Yamaha Racing Dealership. But, wait a minute. What was that? Ex-racer? Yeah, the pickle in the deal was that Kel was absolutely too valuable to Yamaha for him to race at all.

Carruthers thought about all the fun he didn't have while racing during the past season. He decided to be an ex-racer and to call the company Kel Carruthers Yamaha Racing.

By the time we got by to visit Kel in late October, it had been almost exactly a year since we had met him at Ontario Motor Speedway for our first look at, and a ride on, the very sobering four-cylinder water-cooled racers. During that span, the bikes had been so finely fettled that Ken Roberts was able to comfortably retain his National Championship.

As one might expect from Carruthers' character, "me shop" is compact, tidy and straightforward. The stated goal for the facility is for it to be entirely self-contained as regards probable modifications to racing bikes, as well as Kel's own brand of rigidly disciplined maintenance.

Separate and clearly defined areas are provided for storage of pending work, assembly/teardown of whole bikes, engine maintenance, machine tools and fabrication, grinding and polishing, office, and spare parts storage.

Nomads have always been forced by their nature to be efficient with space. Five years of living and racing out of a small house trailer in Europe taught Carruthers economies that are still quite evident in his present, more immobile, environs.

The lack of material clutter and dedication to a crisply defined objective was extended to Kel's choice of people. Providing race-winning bikes for Yamaha's team was the goal. Carruthers knew for sure that his methods would produce that. He had seen factionalism and other egocentric problems get in the way of winning when a number of established tuners were put in charge of individual bikes within a team. In order to get around that complication and insure strict adherence to an evolved method, Kel looked for guys who were masters at correctly fitting parts of machinery together, but who had no previous involvement with racing. Pete Davies was a machinist in a shop where Kel often went to get experimental pieces fabricated. Kel's explanation of the problems was so interesting that Pete came by for a look one day and asked for a job. Both the premise and the relationship have worked out extremely well.

The Yamaha contract's extra work load was eased first when Bill Davies came to train under his brother. Then Fritz Heubner grew tired of mechanicking for Bultaco's motocross team and hounded Kel until he was given the chance to prove that his previous motorcycle experience wasn't a hindrance. Chuck Wostock, a retired Navy officer and one of Kel's first neighbors in El Cajon, was asked to help out when the phone and mail order volume for spare parts got to be a bother. Naturally the phone hasn't stopped ringing, so Chuck has been there ever since. These five men form a very tight, cohesive group that continued to operate smoothly and quietly around our two days of picture taking and asking questions.

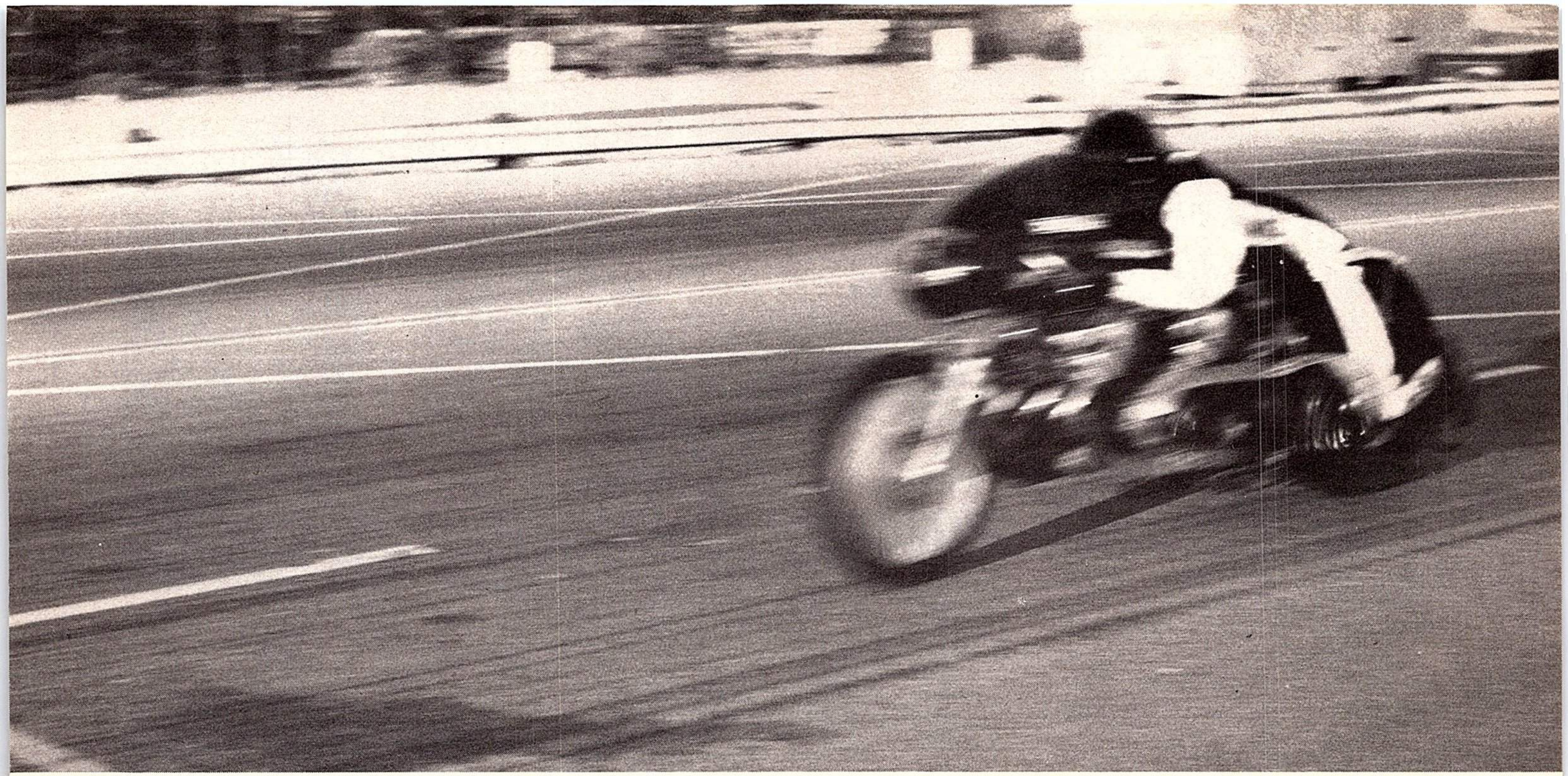
Rebuilding the 1974 racers for sale was the shop project going on during our visit. The new bikes would be showing up soon, and Kel wanted to have a vacant shop so that pre-Daytona work could begin immediately.

As we eyeballed and fingered the stripped bikes, the most amazing thing we noticed was how little actual modification there was. Successful private Yamaha tuners have always said that careful assembly to the design specs was the most effective speed secret. People like our own Gordon Jennings and Mel Dinesen hold that it is doubtful any given individual could improve upon the design and component manufacture of a Yamaha racing engine enough for it to be of benefit during any given year. The time would be much better spent on careful assembly: matching and fitting the parts together better. Yamaha racers are assembled by workers having the same skill level as those on the regular assembly lines. Often the manufacturing tolerances of a dependent pair of components are at their unsympathetic extremes, and they don't fit together well. A racer, by definition, always operates at 100 percent of its design capacity. If a careless fit causes any part to be below its design capabilities, the bike will fail at that weak link. If there were enough master assemblers to put together all the production racers, the resulting cost would put racing beyond the reach of most present competitors.

It was all there in the little log booklets kept on each engine and chassis. A slight change to the damper anchors in the forks, records of the rear shock absorber experiments, the use of Loctite Bearing Mount to prevent the main bearings from fretting at their crankcase bores, and then a change in main bearing design to prolong life. There wasn't a super cylinder or magic piston in the house. The biggest problem all year, it seems, was for the riders to learn how to use the power they had. The only real tuning change to the 750s we saw was the round expansion chambers, with one twisting and snaking back up through the frame, which replaced the crack-prone and flat-sided originals. Kel did allow that the hand-made chambers coaxed another 8 to ten horsepower out of the beast.

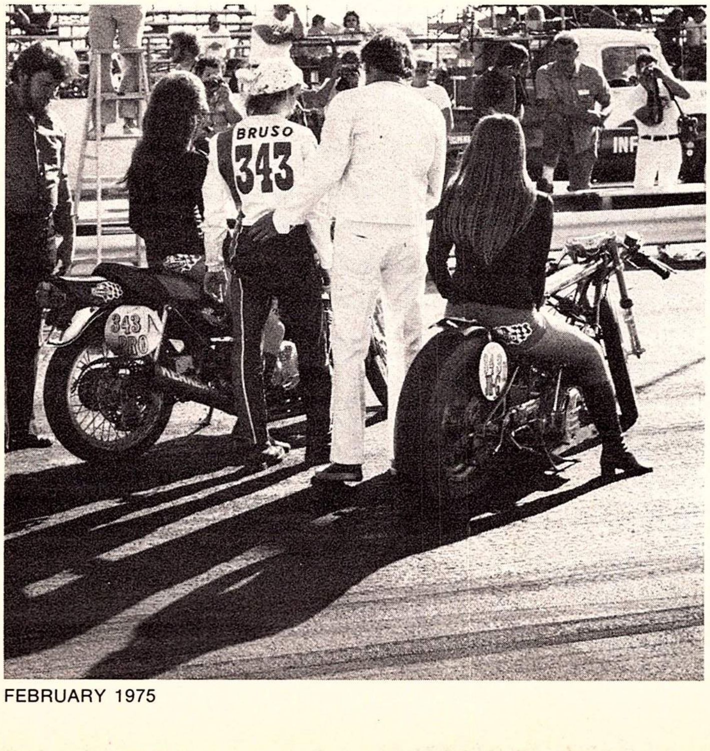
The only real horsepower question of the year arose when Gary Scott won the lightweight race at Loudon on the new Harley-Davidson water-cooled 250. Roberts has never liked the short, slick circuit anyway, so Kel figured he was just having an off-day and Scott was really supercharged. But Roberts insisted that his engine was a little down. A dynamometer check at Yamaha's Buena Park facility proved that the canny little superstar was absolutely right. A minor experiment in the crankcase was actually reducing bhp by about 2 at maximum rpm. A retrofit to the original design regained the loss and the team was undefeated for the remainder of the season.

(Continued on page 107)

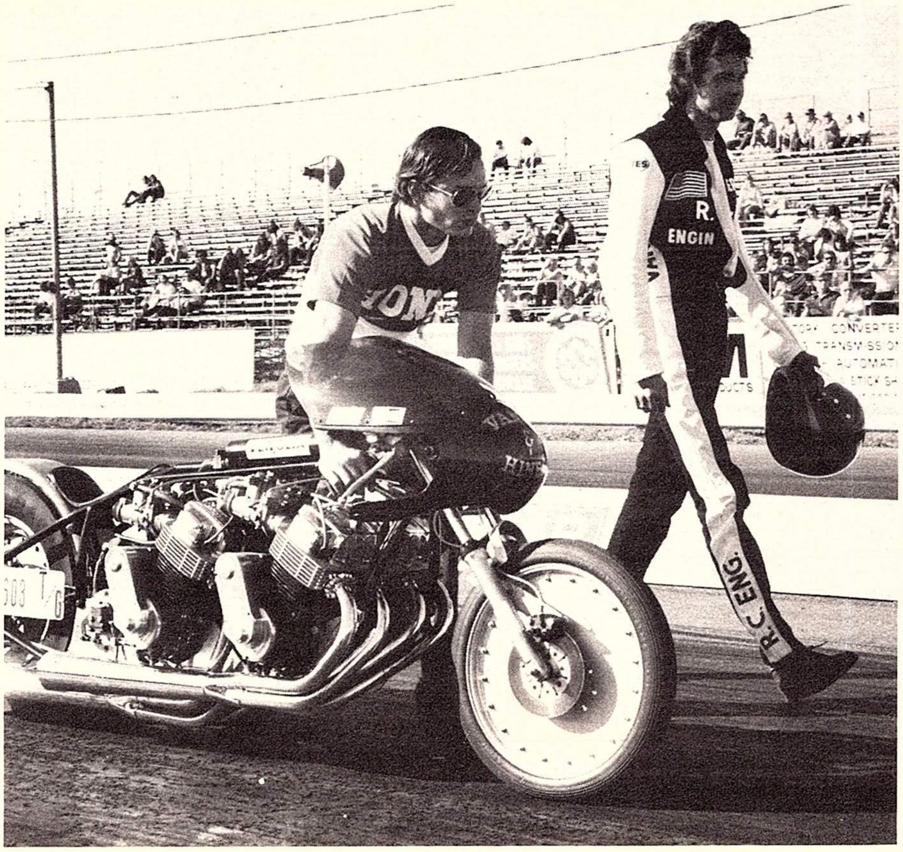


AMDRA COMES TO IRWINDALE

At one time not too long ago, California was the epicenter of drag racing activity. But then the drag strips disappeared, leaving only Lions, Irwindale and Orange County International. A little over a year ago Lions disappeared. A motorcycle meet planned for OCIR fell through, and shortly thereafter it looked like motorcycle drag racing would vanish from the West Coast altogether. Meanwhile Roy Strawn and the American Motorcycle Drag Racing Association were pressing ahead with a drag program on the East Coast, and when the AMDRA brought its act to Irwindale last November we were reminded all about those eye-stinging Top Fuelers, tire-melting Top Gassers and the ingenuity drag racers bring to the sport they love.

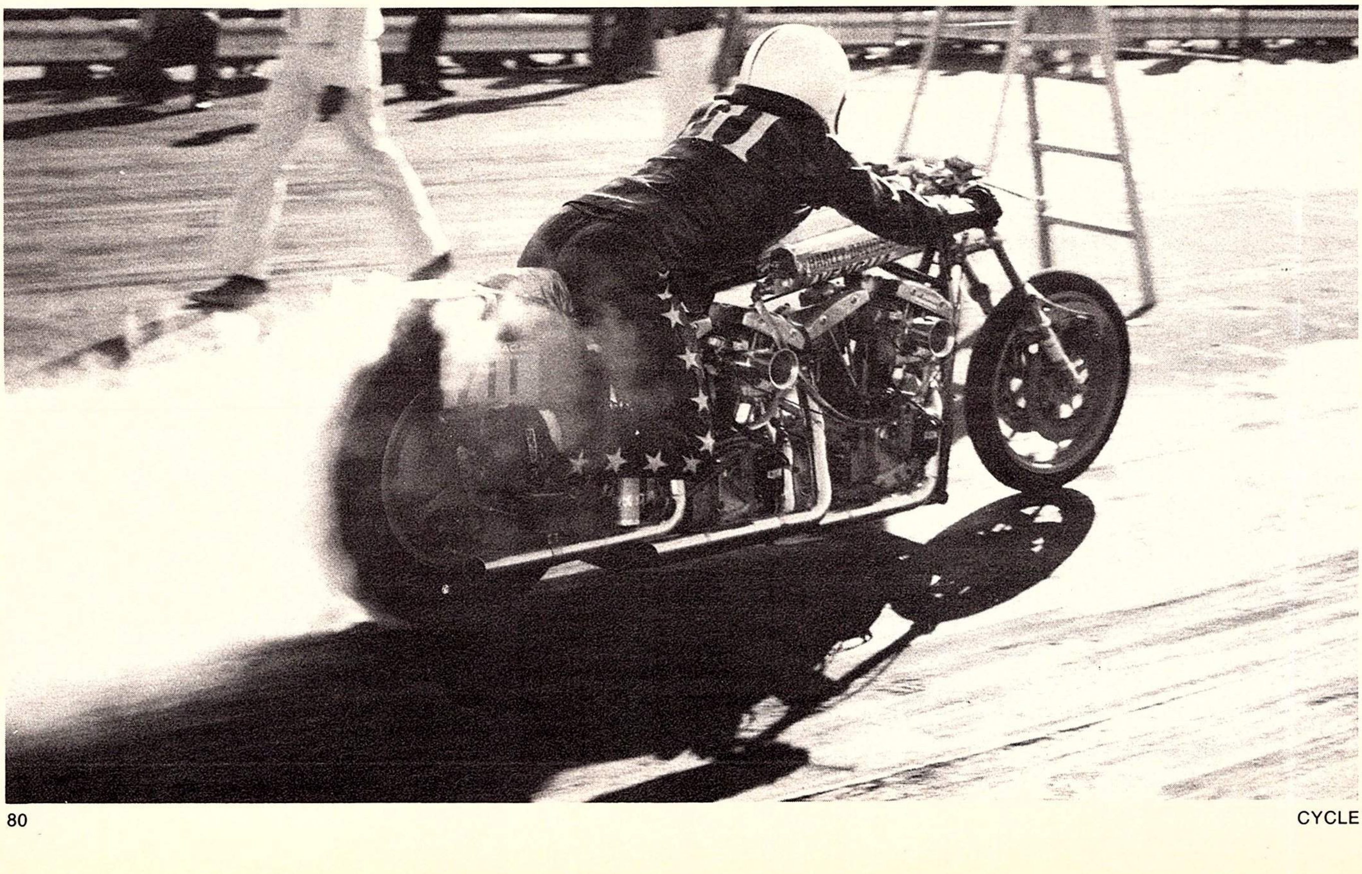


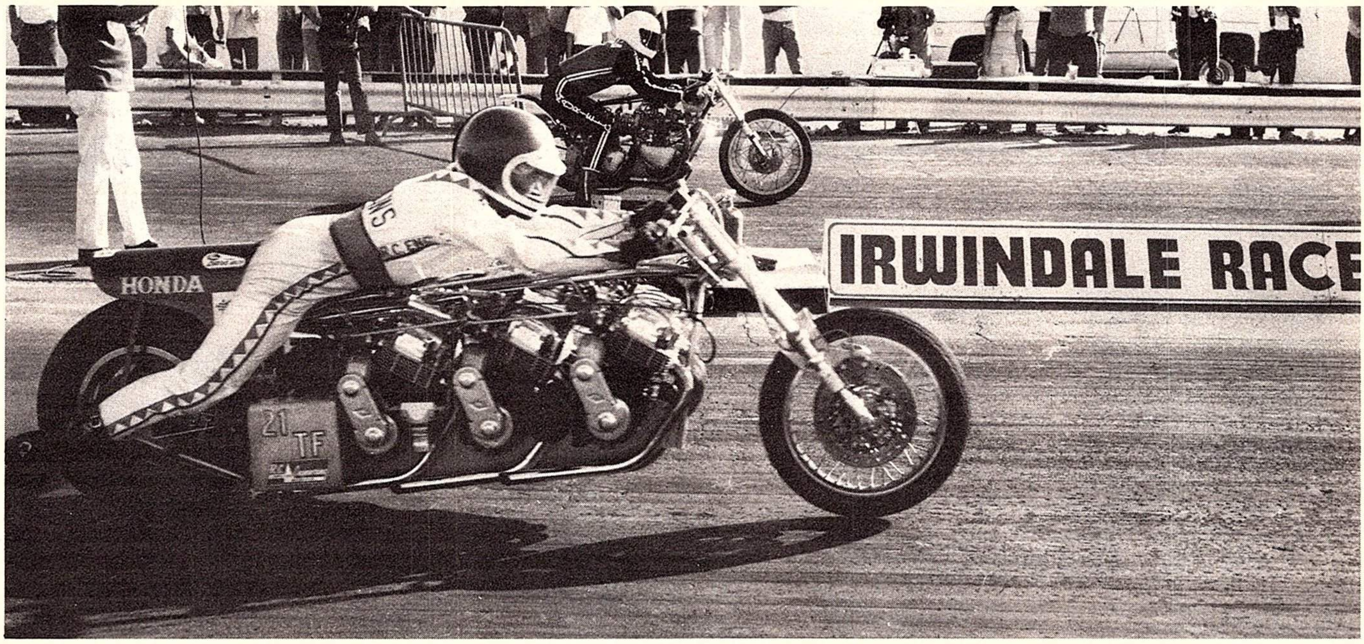
Mike Bruso, the AMDRA's freshly-minted National Champion, came to California from Georgia with his hard-running Pro Stocker, his Junior Gasser and his mouth-watering pit crew. When Bruso left Irwindale he had a new National Record in one of the AMDRA's most competitive classes—Pro Stock. The record was a 10.10, a pretty nice number for any kind of motorcycle and a staggering one for a Kawasaki Z-1 that races with an almost-full complement of street gear. The record was nice; the win in Pro Stock was nicer. To get it Bruso had to beat Ike Hamma, Gary Karnes and Mike Blake.



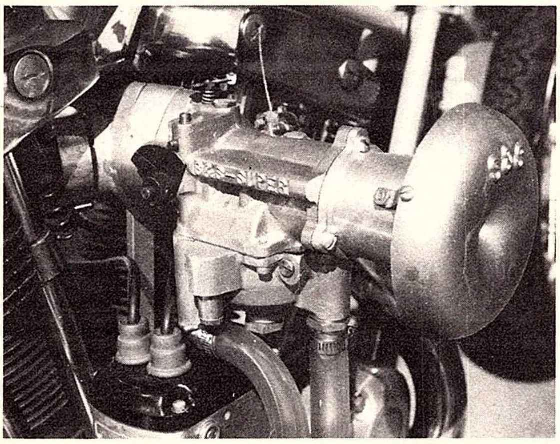
After being introduced to the crowd, Byron Hines pushes the Vance/Hines Honda back to the pits. Byron is the man behind the throne at Russ Collins R.C. Engineering. He built the double-engined gasser you see here, and he built the triple-engined Fueler that catapulted Russ to his big Atco win. Of the two bikes, Hines admits a preference for the double. To watch it run is to understand why: it is a totally economical, totally committed single-purpose vehicle, free of frills and showiness, reliable and perfectly balanced. It is also superbly ridden. Result? A bike that is fully a half-second quicker than its competition.

Joe Smith, who seemed destined to win the big Ontario Super-Nationals Invitational only to snap a chain in the final and lose to Oklahoma's Marion Owens, had his revenge at Irwindale. Joe was second-low ET qualifier on his massive double-engined Harley-Davidson (Top Fuel Record Holder; 8.201, 176 mph), and marched drama-free through the field to meet Russ Collins' Honda Triple in the final. Smith's fueler was perfect: an easy 8.60, 168.22. The Honda Triple was less-than-perfect: an up-in-smoke 9.45, one full second slower than its best qualifying ET. How come? "I guess I got a little throttle happy," Collins said afterwards. Which might be expected. Collins, after all, is in his very first season of Top Fuel racing.

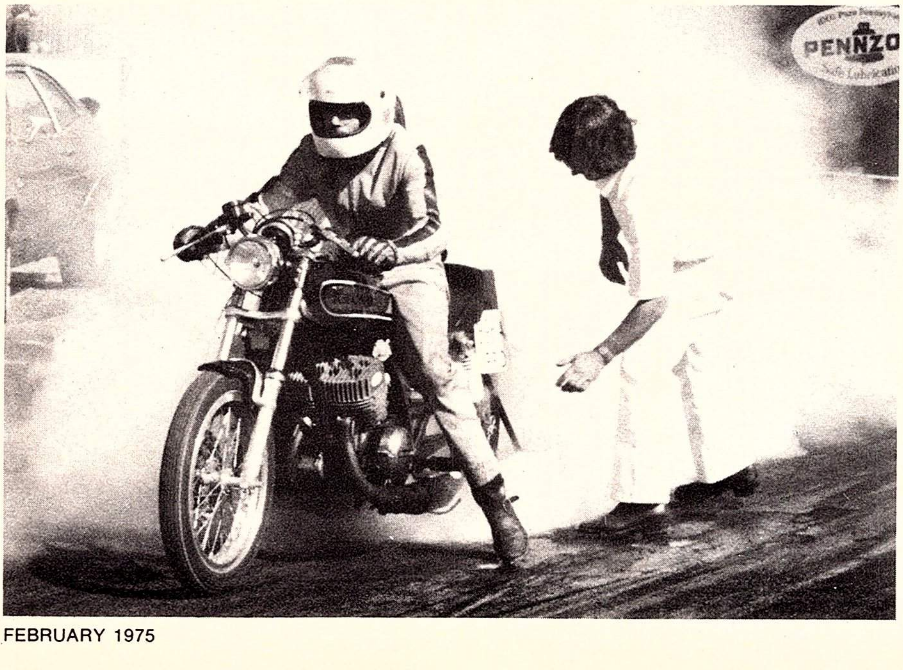




Present against the past: the RC Engineering Triple against Sonny Routt's ageless Triumph Double with Bob Mauriello aboard. The starting light has just turned green; as the photo indicates Collins leaves a millisecond quicker than Mauriello. With its ten-inch rear slick the Triple covers the first 50 feet quicker than any bike in history, and once in front, it has so much power that it's nearly impossible to catch from behind. But the Triple is still very new, very heavy and very complicated.



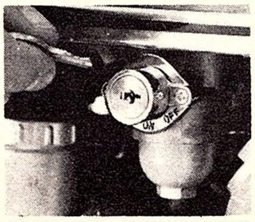
A brand new S&S fuel carburetor showed up on Jerry Cox's single-engined Sportster. Until almost full-throttle is reached the S&S Super works like a standard carburetor. But in a wide-open condition an auxiliary needle lifts off its seat, and fuel flows directly to the main jet from the tank, bypassing the carburetor's float system altogether. Cam on the near-end of the throttle butterfly shaft actuates the special needle.



Remember the "Shootout!" feature *Cycle* published in January? The bike that won was an 800cc Kawasaki H2 prepared by Denco Performance. Here it is again, in legal Pro Stock configuration. Running consistent low tens rider Mike Blake made it all the way to the finals, when he ran into the 1170cc Kawasaki of Mike Bruso. Bruso let loose a slightly off-the-pace 10.26–132.54 mph shot, but it was strong enough to trailer the Denco H2.

ACCESSORIES
for everybody and their bikes...

SISSY BAR CARRY-ALL LUGGAGE Fits all bars, on-off in a jiffy. Double lined, heavy duty vinyl, full zipper enclosure. Waterproof. 2-strap carry-handle, use as hand luggage. 22″ high. Black or antique brown. **$29.95**



HONDA FUEL SHUT-OFF LOCK. Prevents ride-off thefts. Lustrous chrome finish. Easy to install. With 2 keys. All Hondas thru '74. **$14.95**

WHEELS OF MAN
RAIN-PROOF CYCLE LUGGAGE

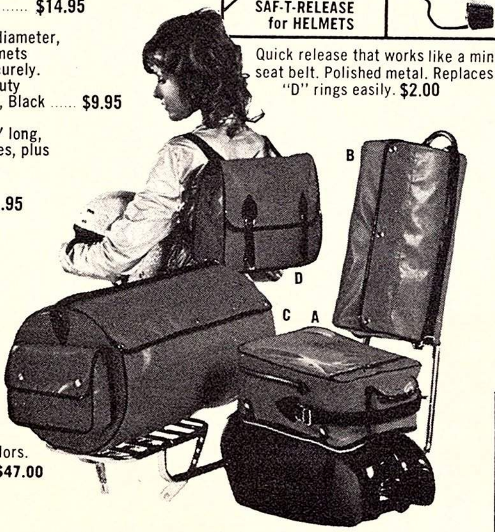
A — Tank Bag — Straps to Gas tank; 12″x10″x5″. Topside map pocket and personal effects pouch. Heavy duty sling for take-along convenience. Red, Yellow, Blue, Black **$14.95**

B — Stuffer Bag — 10″ diameter, 17″ long. Holds two helmets and clothing. Travels securely. Three-snap flap. Heavy duty slings. Red, Yellow, Blue, Black **$9.95**

C — Super Stuffer — 21″ long, 12″ diameter. All features, plus "piggy back" pouch. Red, Yellow, Blue, Black **$13.95**

D — Ruck Sack — Adjustable straps, shoulder or back pack. Flexible sides. 10″x12″x4¼″. Overlapping flap for extra weatherability. Red, Yellow, Blue, Black **$9.95**

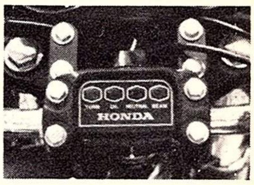
Complete Cycle Luggage Set — Tank Bag, Super Stuffer, Ruck Sack in matching colors. Red, Yellow, Blue, Black **$47.00**



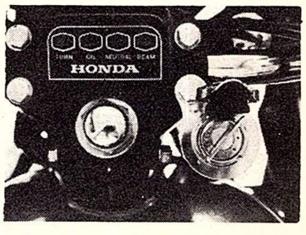
DELUXE HELMET CHIN CUP Fully padded. Lock-in lugs prevent slippage. Ends hanging strap ends. White or black **$1.95**

SAF-T-RELEASE for HELMETS

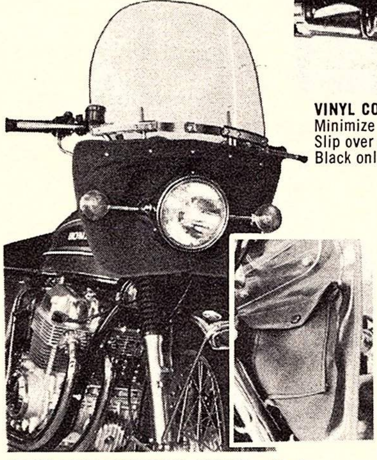
Quick release that works like a miniature seat belt. Polished metal. Replaces your "D" rings easily. **$2.00**



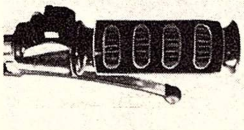
HANDLEBAR EXTENDERS For all Hondas. Also fit Z-1 Kawasaki and 750 Yamaha. Move handle bars back to comfortable riding position without changing cables, brake hose or wiring. **$16.95**



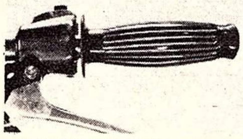
HONDA SWITCH-UP KIT Fits all Hondas. Move ignition switch up. Do it yourself in minutes. With hinged protective cover. Mounting bracket, new switch, two keys and extended harness. List year and model. Complete kit **$19.95**



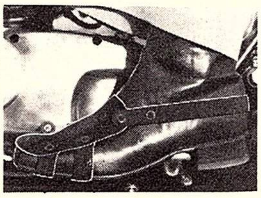
HEAVY DUTY PLEXIGLASS SHIELD with detachable canvas apron. Full body protection. Universal mount chromed hardware, fits almost all cycles. Inside snap-flap pocket for coins, valuable, glasses, etc. Shield measures 21″ x 17″. 3/16″ thick **$44.95**
Shield without apron **$39.95**



VINYL COMP GRIPS
Minimize handlebar vibration. Slip over standard grips. Black only **Set of 2 — $3.49**

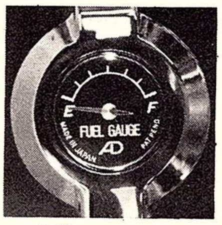


GRAN TURISMO GRIP
Vibration-free riding. For Honda. Gold, Blue, Black or Red.
Set of 2 — $2.98

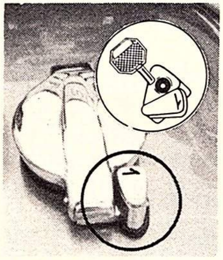


NEW CYCLE SPAT
No more ruined shoes! Cycle spat protects against abrasions, scuffing, indenting. One size fits all. Genuine leather, elastic straps. Extra strap included. Black or Brown **$3.98**

DELUXE HONDA PATCH
4-COLOR "WING" BACK PATCH 13″ wide. Sky blue wing, red & metallic gold name panel on black felt. **$3.50**



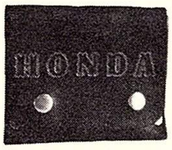
NEW! FUEL GAUGE Fits all Honda flip cap models; all years. Also Yamaha '75's (road) and Kawasaki '75's (road). Easy to install **$14.95**



NEW! GAS CAP LOCK For all Honda flip cap models, all years. Can be used with new fuel gauge (Honda only). Heavy duty. 2 keys. Easy to install ...... Lock and 2 keys **$9.95**

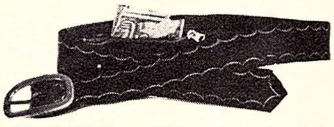
TOP QUALITY HAND TOOLED LEATHER

BELT Hand tooled edges and "HONDA" lettered. Heavy antique brass style buckle. Small, med., lg., X-lg. Black or brown **$9.98**

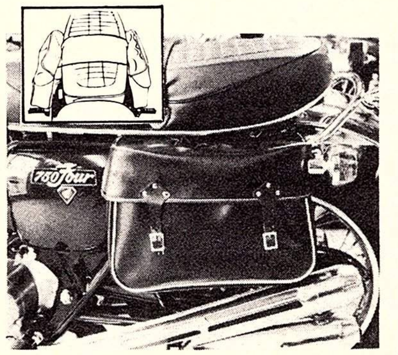


BELT POUCH Hand tooled. Snaps over any belt, can be used as pocket wallet. Black only **$7.98**

BELT KEY STRAP
Hand tooled. Snaps over belt. Black or brown. **$1.79**



MONEY BELT Secret 10″ long zippered pocket on inside. Hand tooled. Small, med., lg., X-lg. Black only... **$12.95**



UNIVERSAL SADDLE BAGS Fit almost all bikes, over or under seat. Easily removable for carrying. Large capacity. Durable Black or Brown Vinyl.
Set of two **$13.95** (Black or Brown Leather **$19.95**)

... and a book-full more!

Only **60c** ($1.50 by Air Mail anywhere in the world.)
FREE with any order.

ACCESSORIES FOR
HONDA
WITH A FLAIR!
1975 CATALOG
MOTORCYCLE PARTS ACCESSORIES & RIDING APPAREL
60¢
HONDA OF MINEOLA

Visit our only retail location.
FREE GIFTS to out-of-town visitors

HONDA of MINEOLA

336 JERICHO TURNPIKE
MINEOLA, N.Y. 11501
(516) 248-5775

C 2

NAME
ADDRESS
CITY ______ STATE ______ ZIP ______
Year ______ Model # ______ Serial # ______

QUAN.	ITEM	SIZE	COLOR (1st & 2nd choices)	PRICE
			Add 5% shipping	
			TOTAL	

N.Y. State residents add 7% sales tax.

☐ Parcel Post Special Handling & Dlvy $1.50 additional (optional)

☐ M.O. encl.
☐ Check encl.
CHARGE ☐ MASTERCHARGE
☐ BANKAMERICARD

CREDIT CARD Number ______
Exp. Date ______
$5 Minimum on Charge Orders

The Shop

SHORT CIRCUIT SEARCH

There was more to Gabe's problem than met the eye; we thought the yellow was true blue.

By Jess Thomas

● We still have the CB200 Honda that was the subject of the road test in the February 1974 issue of *Cycle.* The bike has been such pleasant transportation for short-haul trips that its odometer now shows almost 3600 miles. That figure covers miles ridden by five staffers. Gabe Lukacs, our Production Editor, has decided to buy the CB200 for his 70-mile daily round trip between home and office.

Gabe is very enthusiastic, but, like many riders, he doesn't know very much about motorcycles or other mechanical things. He was blithely riding the CB200 back and forth for a while; then he began to complain about some strange and erratic behavior. Gabe is difficult to ignore.

The bike was ridden with the headlight on at all times so that we could tell whether or not it made any difference in the way car drivers reacted to the machine. An automatic switching device (Luminator) was fitted to the headlight circuit so that the low-beam automatically came on five seconds after the starter button was released.

Gabe first noticed that the engine wouldn't rev over 6000 rpm on the road and would die at idle. With the lights switched off, the engine would idle but still would not run well when asked to pull a high load. I was too busy to examine the bike, so I told Gabe to charge the battery and run the bike with the lights off. A hydrometer check of the battery after the recharge showed that only one of the cells was even marginal.

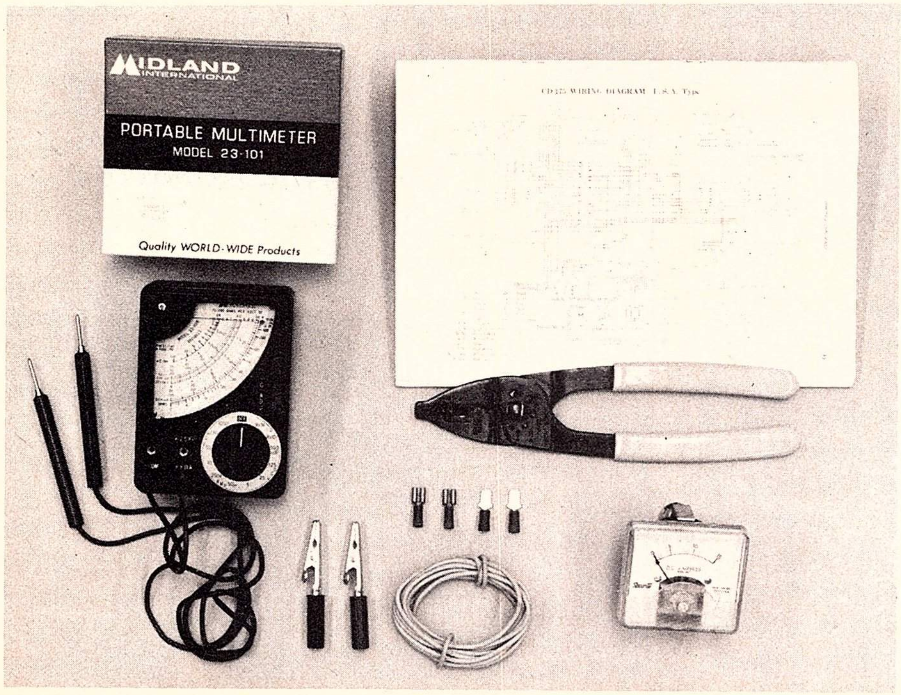
A hydrometer is a glass or plastic tube which has a rubber syringe bulb on one end, a specially weighted and marked float in the tube, and a suitable hose on the other end to fit into the battery filler holes. With the hose stuck into a battery's liquid, the bulb is pumped until the float buoys about half-way up the tube. Cheap hydrometers usually have their floats marked with equal-length bands of red, yellow, and green. With a fully-charged battery, the float will come to rest in the green band at the surface of the liquid. This tells you the specific gravity of the electrolyte. Electrolyte is a solution of distilled water, sulfuric acid and lead. The green band corresponds to a specific gravity of 1.27. That means the electrolyte is 1.27 times as heavy as pure water. If the float sinks to the yellow band, it indicates that the capacity of that cell is marginal; the battery may not be capable of operating the electric starter, although it might do an adequate job with the lights and ignition. When the ball drops into the red band, you know that the cell is effectively discharged beyond use.

If a battery shows yellow or red while in the bike, it means that a) the charging circuit is faulty, or b) there is a short, or c) the battery itself is deteriorating. If the battery fails to respond to a bench charger, with the charging rate set as specified in the owner's manual, then the battery is faulty and must be replaced.

Gabe removed the battery again and then let it charge at a rate of 2 amps overnight. A hydrometer check showed that the battery recovered completely. Had one or more of the six cells in the twelve-volt battery not shown green on the hydrometer float, it would have demonstrated that the low cells were chemically and/or physically useless.

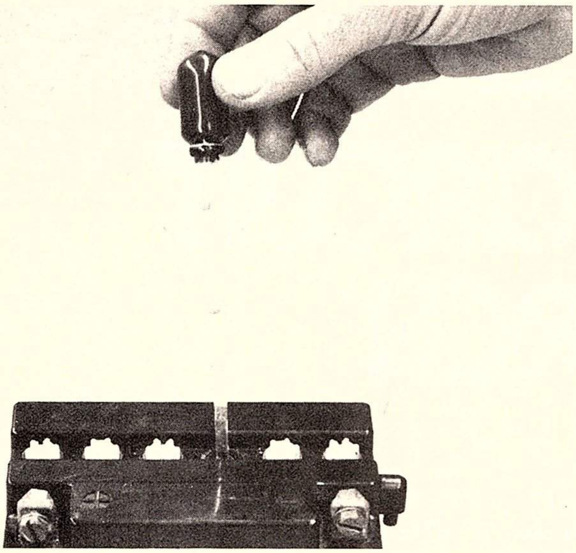
By the time I had an opportunity to check out the circuits on the CB200, Gabe had recharged the battery twice. Service personnel at a Honda shop told him both the battery and the rectifier were shot. I decided to start at one end of the charging circuit and work toward the battery before exploring the lighting, accessory, and ignition circuits for shorts. At the time, the CB200 was so new that Honda had neither shop manual nor owner's book available. Inspection showed that the wiring diagram for the CB175 was identical to what could be seen of the CB200's wiring, so the 175 schematic was used.

The first task was to determine which additional tools were needed to make the search. My choice was a small volt-ohm multimeter (Midland, model 23-101) and a direct current ammeter. Small multimeters can be bought for as little as six dollars, but I paid $17 (plus tax) for the one in this article. The smaller, cheaper meters had a range of 0-30 volts on their first alternating-current scale, the needle

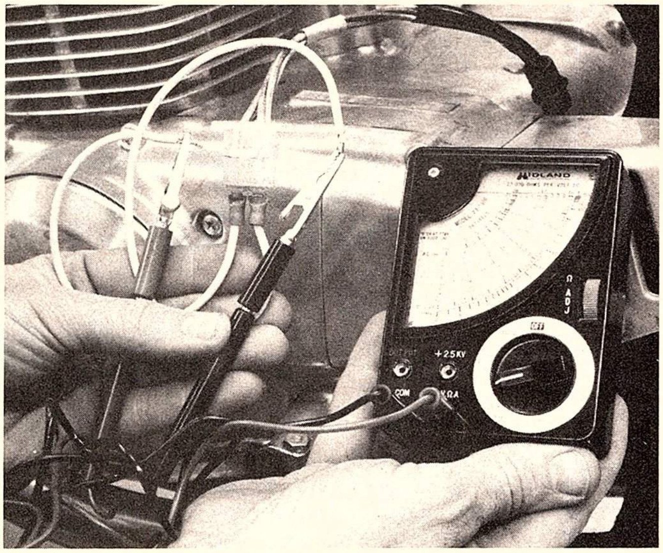


A cheap multimeter and a direct current ammeter are the basic tools for bike electrical problems. The wiring diagram, crimping tool, extra wire, and ends will make the job easier and faster.

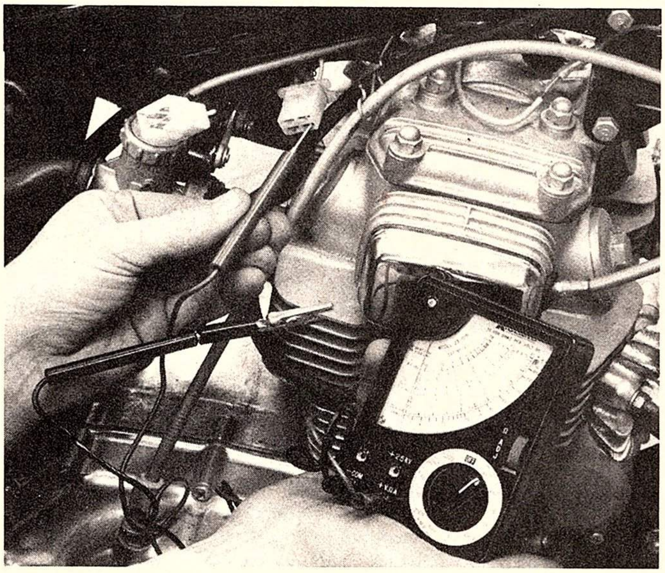
PHOTOGRAPHY: DALE BOLLER



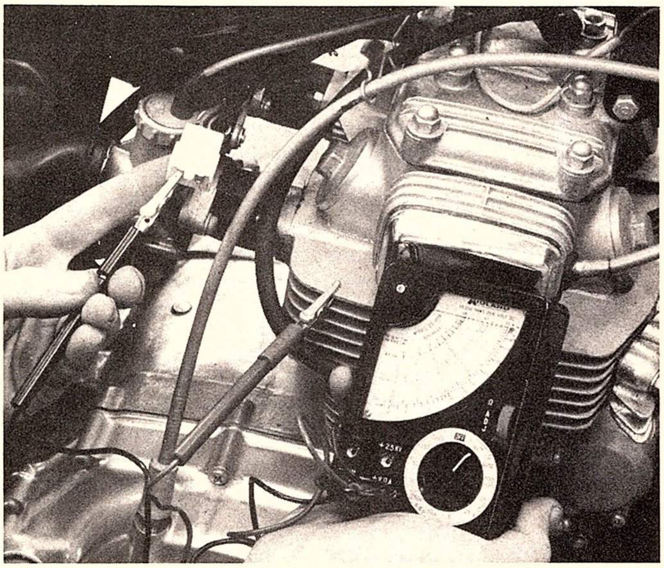
This small Sears hydrometer sells for less than $2.00 and will tell you the amount of useable electrical power in your bike's battery.



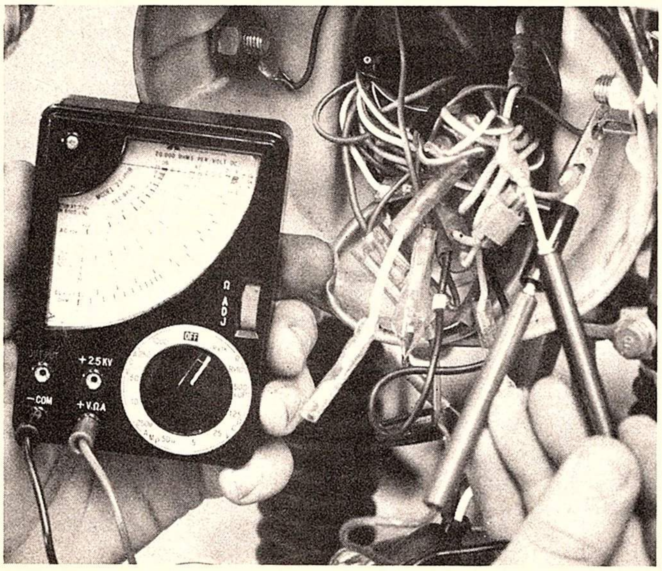
The first test is to measure the alternating current voltage at the engine. Measurement may be made with engine running or at kick-over.



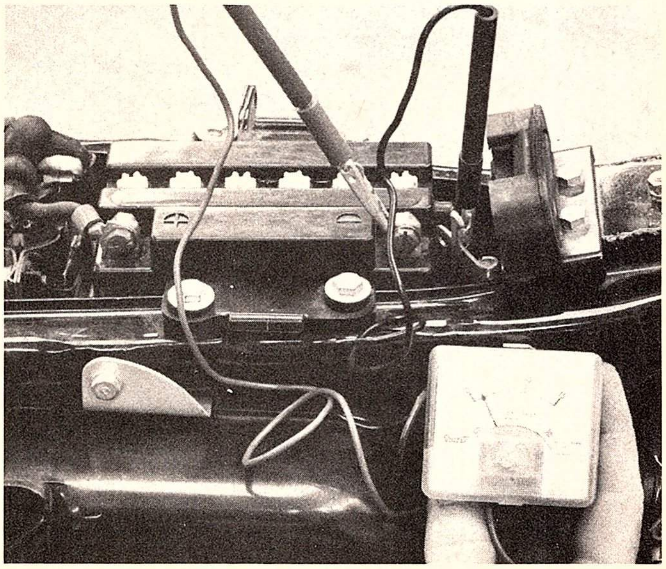
After "zeroing" the ohmmeter and grounding its negative lead, touching the yellow lead in the harness showed the short circuit to remain.



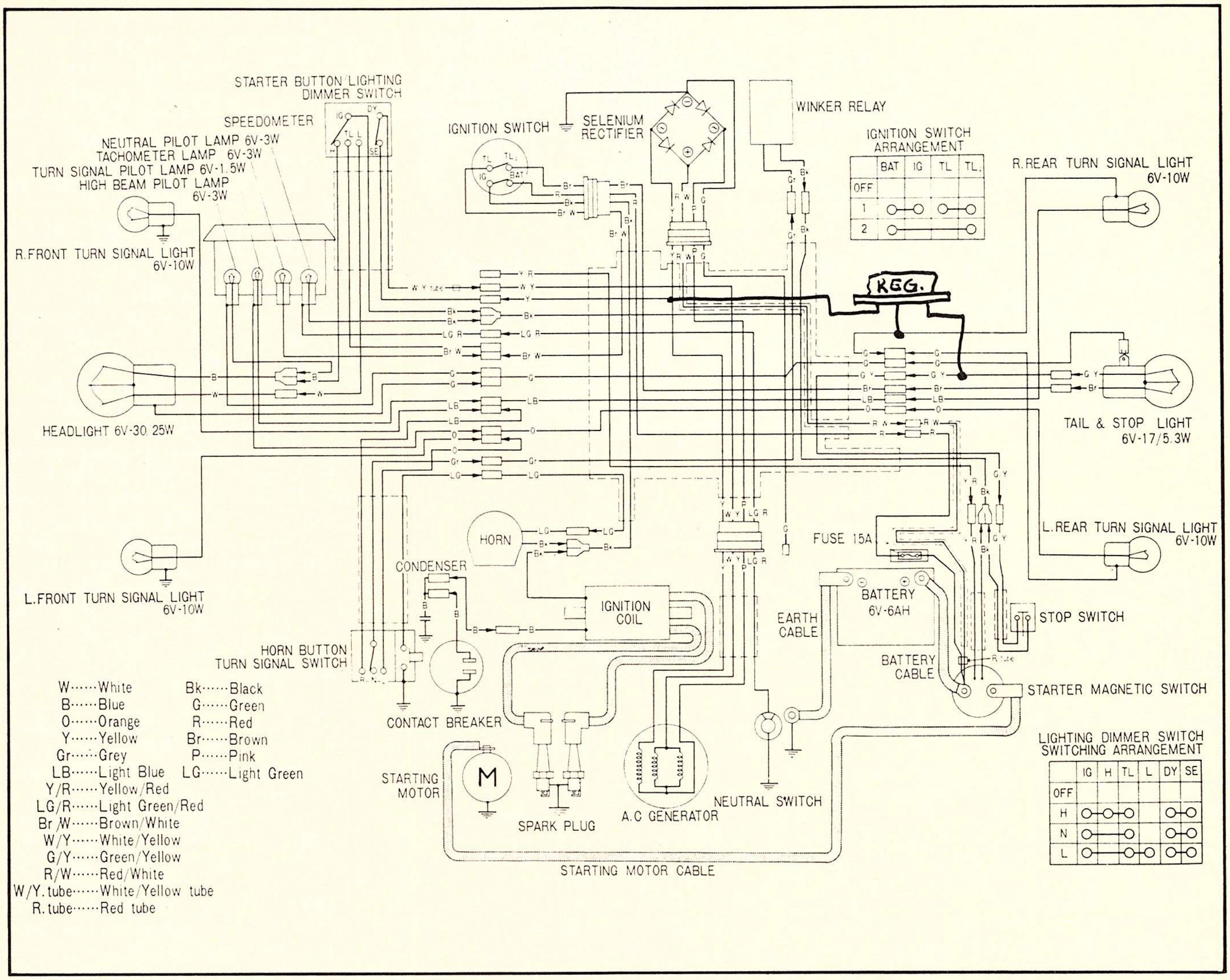
Direct current goes through the rectifier in one direction only. A continuity reading with both leads alternately grounded means a bad rectifier.



After disconnecting the yellow wires in the headlight, a continuity check shows the handlebar switch to be okay. A short in the harness!



After the jumper was installed to bypass the supposed short, the ammeter shows the battery to be charging at a normal two amp rate with lights off.



Honda's wiring diagram, with its understandable switch position graphs, is the easiest one in cycling to follow when one attempts to find electrical faults. The sketched addition shows the Zener diode voltage regulator which was the difference between the CB175 and CB200.

movement was only slightly damped, and there was very little protection in the meter against accidental damage in case the person using it attached it to a circuit wrong. With such a wide-range scale, there isn't very much space between each increment, and when the undamped needle reads the output of the alternator at kickstart speed, it's often difficult to tell whether voltage moved the needle—or whether the case was bumped slightly.

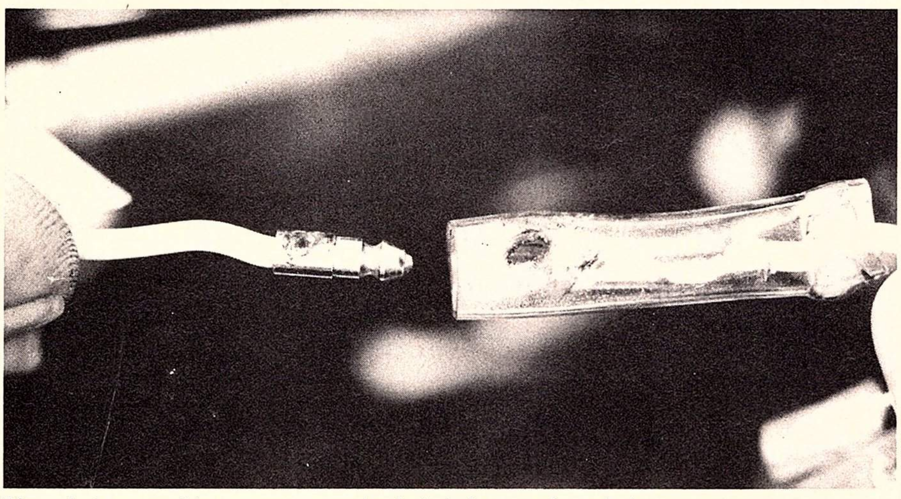
The electronics store dealer said that Midland also had a smaller and cheaper multimeter, with the scales I wanted, just as much meter damping, and a selector switch. But he was out of stock on that meter (#23-094), which sold for about $9.00, so I bought the more expensive one and went to work.

A small ammeter with a range of 0-15 amps will cost about $5.00. Most multimeters incorporate dc ammeters but they usually will measure a maximum of .1 amp or so. The type of meter used in multimeters does not lend itself to being an accurate ohmmeter as well as being an ammeter.

The first test performed on the CB200 was to measure the alternator-output voltage at kickstart speed. Honda makes this and other tests very easy to do by joining the various electrical components together with molded plastic connectors called Jones plugs. The one connecting the alternator to the rectifier is located about eight inches from where the alternator wire comes out of the engine case. A small plastic clip lock keeps the plug halves together; the connectors must be pushed in a little before the plug will separate. Of the four wires in the female half the plug coming from the engine, the pink, yellow, and yellow-on-white are ac power wires. Yellow and pink connect straight to the rectifier to be changed into dc to keep the battery charging when the engine is running. Yellow is one end of a charging coil in the alternator, and pink is the other end of that same coil. The yellow-on-white goes to the light switch on the handlebar where it joins with an extension of the yellow when the lights are switched on to provide extra current. The selector switch on the multimeter was turned to the 10-volt ac position, and the leads were slipped into the pink and yellow sockets of the alternator Jones plug. A swift kick on the pedal produced a 6-volt reading. Pink to white-on-yellow gave 4 volts and yellow to white-on-yellow gave 2 volts. All were good readings. None of the coils is grounded in the alternator, so there was no voltage reading between the wires and ground.

The next step was to check through the rectifier for a short or open circuit with the ohmmeter. Anytime the ohmmeter is used, the bike's battery positive terminal must be disconnected from the circuit; this prevents battery current from damaging the meter. Ohmmeters have their own dry-cell battery. Their readings tell how much resistance a circuit has to the flow of current through it. Zero-ohms readings mean no resistance and a short, or a complete circuit, depending on which is desired. No needle movement indicates infinite resistance and an open circuit. Any reading between zero and infinite shows resistance; the meter needle's movement indicates the level of resistance in the circuit being tested.

The CB200's rectifier has four individual silicon-controlled rectifiers wired together so that they change the alternating cur-



The culprit was a false assumption and a little hole worn through this connector.

rent into direct current. Batteries can only use direct current. One of the characteristics of the rectifier is that dc will only pass through them one way. A direct short in the rectifier will allow the electricity stored in the battery to discharge back into the alternator coils even when the bike is at rest with all the switches off. To perform a test for this kind of short, the ohmmeter must first be "zeroed." The multimeter's selector is turned to the RX1 scale and then the test leads are touched together while a dial is adjusted to cause the needle to register 0 ohms. This is done to compensate for battery aging and the effects of temperature.

Grounding the negative lead of the meter to the bike's battery ground wire and touching the positive meter lead to the pink wire terminal in the male half of the disconnected Jones plug showed a reading of 9.5 ohms, which is about right for that kind of rectifier. But switching the positive meter lead to the yellow wire showed 0 ohms, or a direct short. However, it was doubtful that the short was in the rectifier, for the resulting drain on the battery would have depleted it in short order. More likely, the fault was a short to the frame, or another wire somewhere along the run of the yellow. A check of the diagram showed the wire to run directly to the rectifier with a branch-off to the handlebar switch for the lights, joining with the third alternator wire previously mentioned.

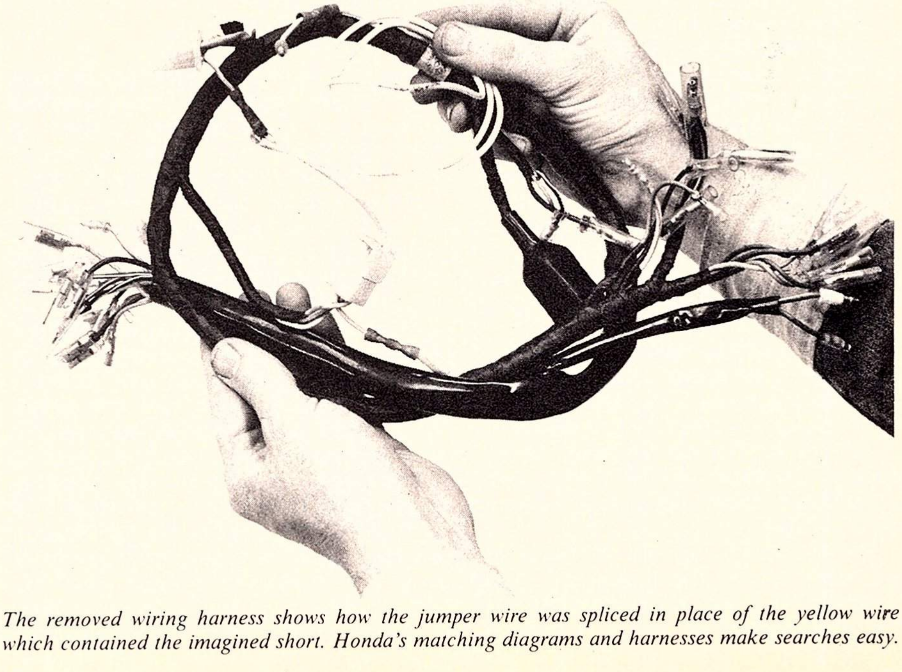
The next check was to disconnect the rectifier from the charging circuit by parting its Jones plug in the frame cavity above the carburetors. With the negative lead of the ohmmeter remaining grounded to the frame at the bike's battery negative pole, touching the yellow leading into the wiring harness showed that the direct short remained. Touching the yellow leading into the rectifier showed a normal 9.5 ohms. Reversing the polarity of the ohmmeter by grounding its positive lead, and alternately touching the rectifier pink and yellow leads, showed a normal infinite resistance reading with no needle movement. When rectifiers do fail in this type of grounded circuit, they usually show a direct short in both directions.

Next I disconnected the bullet plug from the yellow in the harness to the socket from the handlebar switch in the headlight shell. Checking again with the ohmmeter showed that the short was somewhere in the wiring loom. *Ah ha,* I thought. Honda messed up and made a faulty loom. It'll make great pictures. I'll pull the loom out and dissect it like a biology-class python and be sanctimonious as hell about the evils of mass production.

It was getting late. After cutting the yellow wire at both Jones plugs and in the headlight shell, I made an outside jumper wire as a replacement, putting it in the circuit with crimp connectors. With the wire in place and all the connections refastened, I placed the ammeter between the battery's negative terminal and the ground cable. The positive pole on the ammeter went to the negative pole of the battery, and the negative pole of the ammeter went to the ground cable. With the switch on, the needle nudged past zero, indicating a discharge to the ignition circuit. After the engine was kickstarted (the ammeter cables probably wouldn't pass enough current to operate the electric starter), the needle swung over to indicate 2 amps charge with the lights off and 6 amps with the lights on. Gabe happily rode the bike home with a promise from me to make a permanent repair.

Later, starting at the headlight, I pulled loose all 12 wires and worked backward, pulling plugs from the ignition and charging circuits. The rear end of the loom terminated under the battery, where its wires joined leads from the various components. Just as I was about to disconnect one of the last wires, my jaw dropped open, and my eyes bugged out: there was a yellow wire where none was supposed to be. And it went to a Zener diode-type voltage regulator that likewise isn't there on the CB175 wiring diagram. Of course, there was a hole worn in the blade connector cover on that yellow wire. The hole was made by the battery box as it rubbed near the air-cleaner housing with the connector in between. No python and no gloat.

I went into a lot of unnecessary work because I took for granted that the wiring diagrams for the CB175 and CB200 were identical. Next time you start having trouble with your bike's electrics, buy a small multimeter, an ammeter, a hydrometer, and a shop manual. It may be frustrating at first, but if you learn how to use these tools effectively, you won't be at the mercy of bad information. These test items will cost you less than the labor charge, and you will have them to keep. And don't take anything for granted. ◉



The removed wiring harness shows how the jumper wire was spliced in place of the yellow wire which contained the imagined short. Honda's matching diagrams and harnesses make searches easy.

WEINERT *Continued from page 70*

the whole gig out there.

"Pierre and Jones had something going once too, but Jones was afraid to hit him. I think Pierre would hurt him. I remember one time at Atlanta Don Jones came looking for Pierre with a crescent wrench, and I told Jones where Pierre was, in the back of a truck. I just wanted to see some action. What the hell, why not instigate?

"I kind of knew all along that Pierre would switch to the 250 class last year after being the Open Champion in 1973. I think the main reason he switched was to show Jones who was really Number One. And he would have walked away with the 250 class championship last year if they had given him points, but he isn't eligible anymore because he's Dutch.

"At the end of the 1973 season they wanted to take everything away from him because some people said he shouldn't be considered an American. I said, 'Hey, Yamaha brought the guy over here under an existing set of rules, and you can't change in the middle of the stream. That's foul play. If you're going to change anything, do it next year.' I was all for him getting Number One instead of Mike Runyard because I felt he would do more for the sport than Runyard, and he has.

"I'm glad that the AMA finally did it that way. There is no doubt in my mind that Pierre was the best rider in the country in 1973. I didn't have a chance to race against him last year, but I think we would have had some good races. But I think next year he'll ride the open class with me. Riding against him every weekend will make me faster much quicker. I like to race against the fastest guys because when you can beat them consistently it makes you the best."

* * *

Before Weinert goes home Karsmakers warns him that Weinert's wife Kathy is a bit upset that he took the BMW that afternoon. "She said you went to the race track, so you should have taken the van," says Karsmakers.

"Uh-oh," says Weinert. "Better not tell her about the Trabuco Canyon run."

He walks in his front door and is greeted by his perfervid dog Scotty and the redolence of pork chops in mushroom sauce.

"Why did you take the BMW?" promptly asks Kathy, a quiet, alert blonde with a degree in psychology. "Well, I have to get 500 miles on it so it can go back for its checkup," replies Weinert unconvincingly. She tolerantly ignores his answer.

"Look what came in the mail from your father," she says as she hands Weinert a newspaper clipping from the Middletown *Times Herald*. It's a column by the local sports editor. Weinert sits down at the kitchen table and reads, occasionally breaking into snickers.

"Listen to this," he says, reading from the article: " 'Weinert's high school coach

(Continued on page 90)

CIRCLE NO. 35 ON READER SERVICE PAGE.

CATALOG CYCLE CENTER, INC.

WORLD'S LARGEST CYCLE ACCESSORY CATALOG

300+ PAGES – FULL COLOR

NO BACK-ORDERS: WE SHIP OR REFUND YOUR MONEY

BIGGEST DISCOUNTS: NO FANCY STORE, NO DEALERS

USE YOUR BANKAMERICARD OR MASTER CHARGE

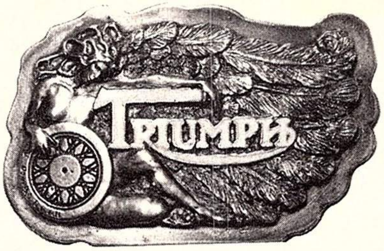
Send $4.95 Cash, Check or M.O.
(Includes 1st Class Postage, Refundable with 1st Order)

No COD'S or Charges, Please

Name____________________
Street____________________
City____________________
State ____________Zip________

CATALOG CYCLE CENTER, INC.
P.O. BOX 2057 SANTA ANA, CA. 92707

Triumph belt buckle

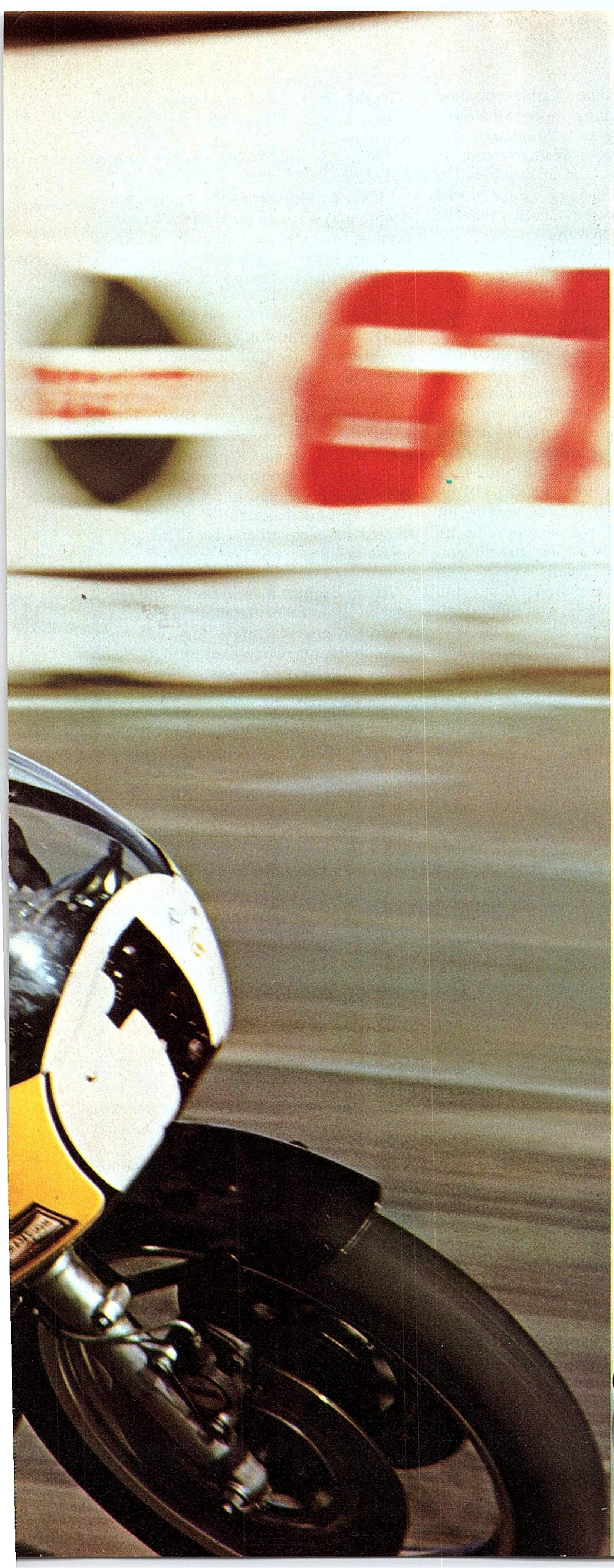


This is your opportunity to own a uniquely distinctive belt buckle which is an original design crafted in exquisite detail. Enhancing this buckle is the use of inlaid lifetime enamel in "Triumph blue" on the lettering. Available in solid bronze (silver or gold color).

Send check, money order, American Express or BankAmericard account number to:
DOUGLAS RANDALL CO.
136 South 20th Street
Philadelphia, Pennsylvania 19103
Please send _____ buckles @ $23.00 each
☐ Gold color ☐ Silver color

name
street
city state zip
account number if applicable

BELL
HELMETS
1
GOODYEAR



When your two-strokes are winning all the races, people forget that you also make four-strokes.

For those who suggest Yamaha makes only two-stroke machines, we have a couple of powerful arguments.

The 1975 XS650, and the 1975 XS500.

The XS650 twin is the Yamaha street classic—the object of greater owner loyalty than any machine we've ever produced. Stock, with its simple, almost vibration-free SOHC engine, the XS650 has been acclaimed as one of the most reliable tourers made. Slightly modified, the XS650's performance and handling helped AMA Champion Kenny Roberts chalk up more winning points than any rider in history.

The XS500 is not only a relatively new machine for Yamaha, but in fact an entirely new motorcycle design. Its double overhead cam, eight-valve engine is the most advanced vertical twin ever built. And Yamaha's exclusive Omni-phase® Balancing has reduced vibration to a level comparable and even superior to that of multi-cylindered machines.

So, if you're thinking about a four-stroke street machine, visit a Yamaha Dealer and see the 1975 XS650 and XS500. Once you ride, we think you'll agree our four-strokes on the street are just like our two-strokes at the track.

That is, way ahead of everything else.

The new Yamaha 4-stroke XS650.

The new Yamaha 4-stroke XS500.

Someday, you'll own a Yamaha.

CIRCLE NO. 23 ON READER SERVICE PAGE.

GO with the LEADER
BECOME A
CERTIFIED
MOTORCYCLE MECHANIC

Train at Daytona Beach, Florida

By every standard AMI is the leader in the field of training motorcycle mechanics

- Thorough, comprehensive resident training programs. Highest standards required for graduation.

- 35 fulltime personnel including a dedicated, qualified team of instructors.
- AMI has the largest and most complete facility in the industry. Over 32,000 square feet of school area. Four large classrooms. Ten completely equipped laboratories. Large repair shop, with modern equipment. Rotary engine and dynamometer laboratories for special courses.

APPROVED FOR VETERAN'S TRAINING
MOTORCYCLE REPAIR IS BIG BUSINESS!

Over 7 million motorcycles in use. 15 million projected by 1980. 16,000 motorcycle dealers now in business. Number increasing every month. Dealers need thousands of qualified motorcycle mechanics now.

START YOUR CAREER NOW!
Call 800/874-0645 Toll Free
Fla. Residents Call Collect 904/255-0295

AMERICAN MOTORCYCLE INSTITUTE
P. O. Box 2628
Daytona Beach, Fla. 32015

Name ....
Address ....
City ....
State .... **Zip** ....
Home Phone .... **Age** ......
I Am A Veteran ☐

75-2-10

said he'd never become an athlete because he was totally lacking in coordination.' And this part is great: 'Motocross is a dangerous business,' " Weinert reads in mock solemnity. " 'Jim has suffered a broken arm, broken hand, and a busted knee.' My dad must have gotten into the act—he likes to beef it up.

"Oh no!" screams Weinert. "I don't believe this. Listen to what my dad says in this thing: 'Last year Jim made $100,000. All my work was worth it.' All *his* work? $100,000? Don't I wish. According to this I'm a $100,000-a-year stupid uncoordinated son of a bitch."

Jim's father is a stubborn independent sort who "runs a scrapyard," according to Weinert. The newspaper refers to it as an automobile recycling business, but whatever it may be, it's successful to the tune of almost a million dollars a year. "I remember one time when I was working for him I did something wrong and he grabbed a cigar out of his mouth and threw it at my head," recalls Weinert with affection. "Then he glared at me and said, 'It's a good thing for you that I don't smoke hatchets.' "

Kathy calls Weinert to dinner, and while she's in the kitchen fixing the salad he places the $20,000 check on her plate.

* * *

"I should train a lot more, then I could be *so good.* But I know just what I have to do and I do it, no more. What's the sense? You can only go so fast so soon. I'll get there. A lot of it has to do with age, and other things. Like time. You need time. You have to pump yourself up because if you don't, the air leaks. A racer is like a balloon. Lately I've been down to about ten pounds of pressure, but now I have to start getting serious again so I can really gas it up in the Trans-AMA.

"I'm happy-go-lucky. So is Joel Robert, and he's been world champion six times. There's an exception to every rule. Why be a sourball about the whole god damn thing? You can only be so serious and then it starts getting to you. I don't party that much any more now that I'm married, but you gotta get loose a little bit, you have to, man. Especially when you've been used to getting loose, and hell, I'm used to all the wide-open everything.

"I won the championship at the next-to-last race. Then I got third at the last one, but I didn't ride right. It was in Louisiana, and it was humid and muggy and hot. I was weak, and I threw up after practice. I guess it might have been because I let down after I knew I had Number One. I talked to Pierre earlier that week and he said, 'C'mon, you have to win the last one,' and I said, 'Naw, I'm Number One now, I can kick back a little.'

'No, you have to show them that it wasn't a fluke,' Pierre said, and I said, 'I don't care. I worked hard these last three races, and that's a lot of concentration.'

'Oh no,' he said. 'That isn't the way to do it.'

I said, 'Hey, I got my bonus. I'm not money-hungry. I'll just take a little vacation now.'

Then he said, 'Well, maybe you're right.' "

"It's just a matter of style, I guess. Some people may have an edge on me in conditioning, but I still beat them. I don't know what the story is; something doesn't work out somewhere. There's more to it than conditioning.

"But I'm more serious than people think. I've got this image that wasn't ever completely true, and it definitely isn't now. But I guess I encouraged it. I remember once in Michigan I couldn't sleep the night before a race so I went out at 1:00 in the morning to get something to eat, and who should I run into at a Jack-in-the-Box but Don Jones and some other guys. So I pretended like I had been out partying and was drunk, and they all looked at each other like, 'This guy is smashed.' But I was just hungry."

* * *

After dinner Karsmakers and Jack Blackwell, another neighbor and the father of Mark Blackwell, the 1971 open class champion, came over to shoot some pool on Weinert's new rust-colored table; Kathy goes next door to see Denise Karsmakers. Blackwell paces around the table like a shark, while Weinert makes some drinks of Kahlua and milk, including one for Karsmakers.

"I've really loosened up Pierre," Weinert says. "He hates me for it. He says I've ruined him for life. If he wins the Trans-AMA he should give me ten percent."

The dialogue between Weinert and Karsmakers revolves mostly around what to do with the $20,000 to protect it against inflation. Karsmakers tells Weinert about the bankers acceptance note his accountant advised him to buy, and Weinert says it sounds like a good idea. In fact, hiring Karsmakers' accountant sounds like a good idea to Weinert. Shortly after 9:00 Karsmakers calls it a night; he has to fly to Canada the next day for the first round of the Trans-AMA. Although the race doesn't count for points, Karsmakers is taking the series seriously enough to want the edge of one more race.

A few minutes later Kathy comes home. Weinert fixes himself another Kahlua and milk and sits down on the couch with his guitar in his lap, singing "Rocky Raccoon" with his own words to the chorus:

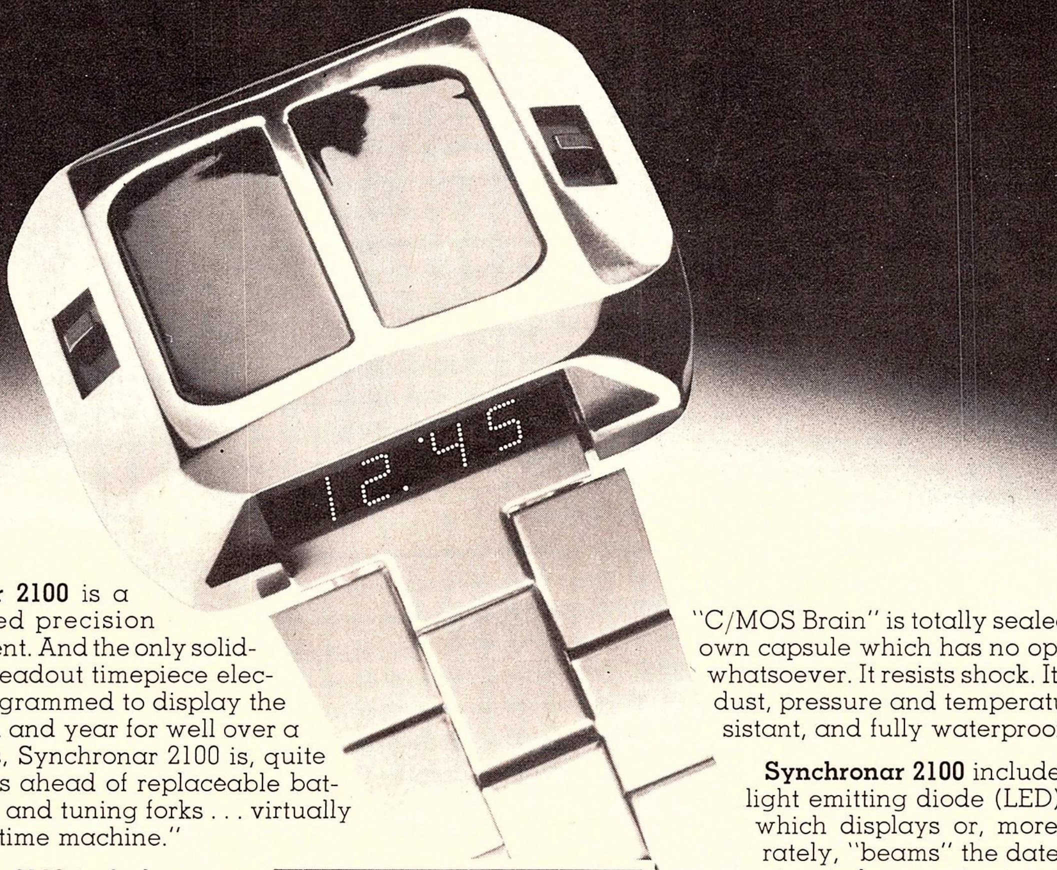
Rocky Raccoon
Raced through the turn
Only to be passed by his rival

His rival it seems
Had broken his dreams
By winning the Number One title

His name was Jim
And he called himself Slim
But everyone knew him as Weinert

Da da da-da-da-da dum dum . . .◉

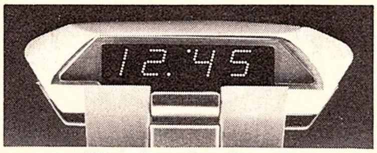
Synchronar™ 2100. The world's first solar-powered timepiece.



Synchronar 2100 is a solar-powered precision wrist instrument. And the only solid-state digital readout timepiece electronically programmed to display the correct month and year for well over a century. Thus, Synchronar 2100 is, quite literally, years ahead of replaceable batteries, jewels, and tuning forks . . . virtually a "perpetual time machine."

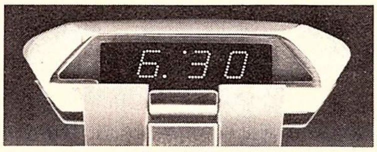
Synchronar 2100 includes a skylab-like silicon solar cell. This solar cell gathers its power from sunlight, daylight, ambient light, or even a simple light bulb. And, of course, it stores the power it gathers, so even if left in a dark drawer for a year it will still be performing to the very minute.

Synchronar 2100 includes the "C/MOS Brain." This computer on a chip, which was conceived and constructed in the Ragen laboratories, is electronically programmed to display the correct month and day, with no resetting, for the next 125 years . . . automatically adjusting to short and long months, and even leap years. The "C/MOS Brain" is totally sealed in its own capsule which has no openings whatsoever. It resists shock. It is dust, pressure and temperature resistant, and fully waterproof.



Slide bar for time . . .

for counting seconds . . .



for date.

Synchronar 2100 includes a light emitting diode (LED) array which displays or, more accurately, "beams" the date and time in hours, minutes and counting seconds on a viewing screen mounted at the vertical edge of the timepiece. This exclusive digital display automatically adjusts to available light and is fully visible in sunlight, moonlight, or no light at all at 400 feet under water.

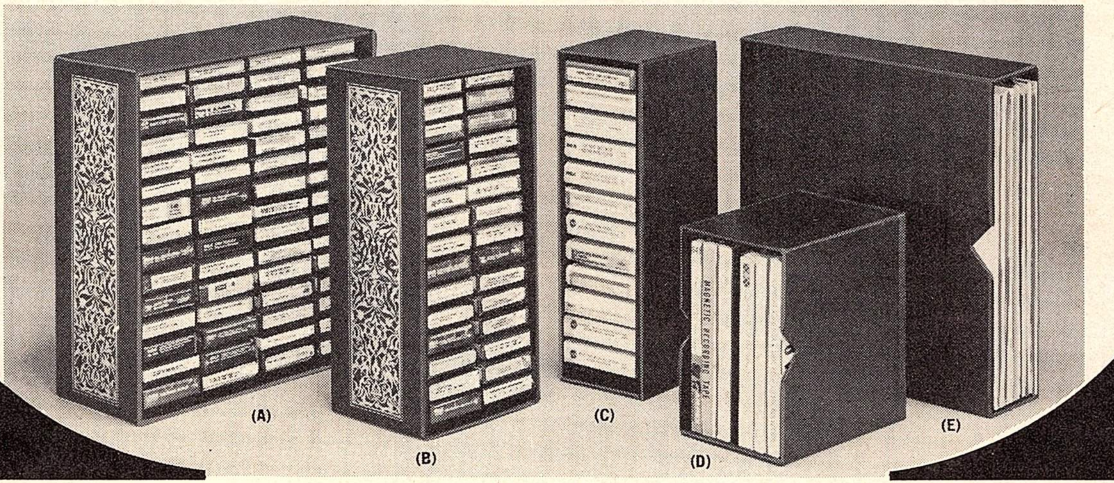
Synchronar 2100 also includes a substantial price tag—$500. Yes, it is expensive and, at the moment, quite difficult to find. If you wish more information, wish to see or own the Synchronar 2100, write Ragen Precision Industries, Inc. at 77 Water Street, New York, New York 10005. Or call us at (212) 344-4050.

Synchronar™ 2100. Produced by Ragen. Powered by the Sun.

Stereo Review Magazine Presents . . .

THE 'STORAGE PROBLEM' SOLVERS

DELUXE MATCHING STORAGE CASES FOR YOUR 12″ RECORDS, 7″ REELS, CASSETTES AND 8-TRACK CARTRIDGES.



(A) 60-unit cassette case. 13½″ h. x 12⅝″ d. x 5½″ w. Compartments are tilted back to prevent spillage. Includes pressure-sensitive labels for titling. $16.95 each; 3 for $48.00

(B) 30-unit cassette case. 13½″ high x 6½″ deep x 5½″ wide. Tilted compartments, labels included. $11.95 each; 3 for $33.00

(C) 12-unit cartridge case. 13¼″ high x 6½″ deep x 4¼″ wide. Tilted compartments, labels included. $8.50 each; 3 for $23.50

(D) 6-unit 7″ reel case. 8″ high x 7½″ deep x 5″ wide. Holds reels in original boxes. $5.95 each; 3 for $17.00

(E) 20-unit 12″ record case. 13¼″ high x 12½″ deep x 3½″ wide. Holds records in original jackets. $6.50 each; 3 for $18.50

Here's the ideal solution to the problem of keeping all your records and tapes stored neatly, safely, conveniently and attractively. A complete set of matched storage cases, designed by the editors of STEREO REVIEW magazine, for your records and all your tapes: cassette, cartridge and 7″ reel. Now you can keep them side-by-side on your bookshelf or cabinet, easy to identify and readily available.

These cases are sturdily constructed and covered in a handsome leatherette. The outer case is elegantly embossed in gold and comes in your choice of three popular decorator colors—black, brown and green—so that they lend themselves readily to the decor of any room.

STEREO REVIEW large capacity storage cases are just what you've been looking for—they're the ideal solution to keeping your records and tapes neatly stored for easy use.

AMERICAN EXPRESS CARDS

BANKAMERICARD

AN EXTRA SERVICE FOR YOU— CHARGE YOUR STORAGE CASE ORDER TO YOUR AMERICAN EXPRESS OR BANKAMERICARD ACCOUNT.

HERE'S HOW TO ORDER YOUR DELUXE MATCHING STORAGE CASES

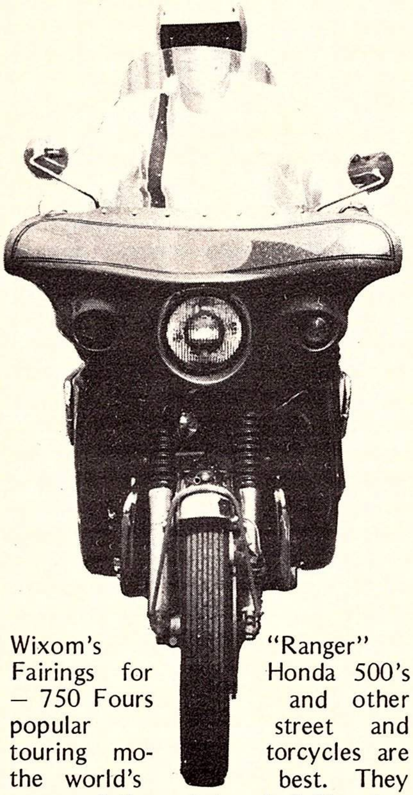
CASH: Mail your order along with your name, address and remittance in the amounts indicated above for the units being ordered. ADD 50c PER UNIT FOR POSTAGE AND HANDLING. ($1 PER UNIT OUTSIDE U.S.A.).

CHARGE—To your American Express or BankAmericard Account! Mail your order, name, address and credit card number. You will be billed in the amounts indicated above PLUS 50c PER UNIT FOR POSTAGE AND HANDLING. ($1 PER UNIT OUTSIDE U.S.A.).

Be sure to identify the type of case ordered and indicate your color choice for the back of the case—black, green or brown (sides in black only).

MAIL ALL ORDERS TO—ZIFF-DAVIS PUBLISHING COMPANY, DEPT. 721-A,
ONE PARK AVENUE, NEW YORK, N.Y. 10016.

THE MORE YOU KNOW ABOUT FAIRINGS THE MORE YOU'LL WANT A WIXOM.



Wixom's "Ranger" Fairings for Honda 500's – 750 Fours and other popular street and touring motorcycles are the world's best. They are carefully sculptured of fiberglass utilizing special resins which absorb vibration and shock. Stress areas are carefully engineered and reinforced. Our fiberglass is strong and it's repairable. Beware of other so-called space age "wonder materials" that can't withstand vibration.

When Wixom introduces something new, it will be done right! Thousands of satisfied Wixom owners since 1965 have told us their fairing has outlived their bike!

When you find out the facts about fairings – you'll want a Wixom.

Write today for
catalog and decal
$1.00 ppd.

WIXOM BROTHERS, INC.
1637 East Burnett Avenue
Dept. CM-275
Long Beach, California 90806
(213) 426-0485

CIRCLE NO. 45 ON READER SERVICE PAGE.

VICTOR *Continued from page 65*

can be done in just minutes.

The clever design of the Victor release is an attraction strengthened by good materials and quality fabrication. The majority of compression releases we have seen and used, including factory items, have been made of low grade materials and marked by shoddy workmanship. The body of the Victor release is a two-piece unit. Copper brazing bonds the two pieces as one and provides a strong air seal. The steel bodies are drilled, threaded and the valve seat faces machined and centered before being cadmium plated. Both springs and the retaining pin are 17-7 hardened stainless steel. The most critical part, the valves, are 1215 steel and they are induction hardened prior to centerless grinding and lapping. Each compression release assembly is pneumatically pressure checked after assembly. Rejects are rebuilt or destroyed. The Victor releases come with a cable and plastic lever. Most new dirt bikes come with two tapped spark plug holes in the cylinder head and usually there is enough clearance for the release, which is taller and broader than a spark plug. Some machines may have only one spark plug hole or head finning may prevent an easy fit of the big compression release body. In these cases a machinist will have to fly cut the fins for clearance and drill and tap if necessary. If you have your head drilled and tapped with an additional spark plug hole be sure to keep the new recess as far from the original as possible. This is particularly critical with small displacement engines where cracking between spark plug holes is not uncommon.

We used the Victor release in a 400 Maico motocrosser. The 400 Maico, with its ferocious kick back, started easily (as good as with the factory release) and slowed with definite authority using the Victor release. By using the Victor release we were able to remove the stock cylinder de-compressor used for starting. As a stopping or slowing device the release worked ideally, especially on twisty Edison roads and long down-hills, where the rear Maico brake fades as the heat of constant use builds. When the brakes got wet the compression release became invaluable, being the only way to slow the bike.

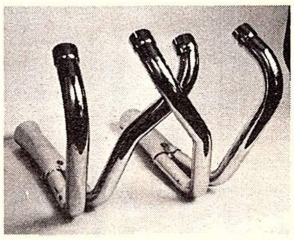
While still a messy device from the standpoint of spraying unburned fuel, the Victor one-way starting/stopping compression release is as important to an enduro rider as a good speedometer. For trail riders the compression release can take the horror out of that surprise moment when freshly soaked brakes fail. Considering the physical and mechanical damage the Victor compression release could prevent, the price is cheap. The releases are distributed by Webco, Wheelsport and Yamaha. The suggested list prices vary from $11.95 to $14.95 depending on which vendor sells to your dealer. At twice the price it still would be cheap insurance. ◉

BARGAIN HUNTERS!

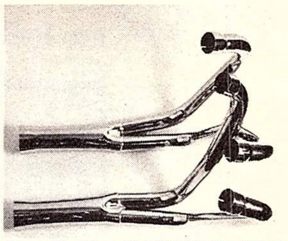
DISCOUNT GOODIES

Chopper
Touring
Repair Parts

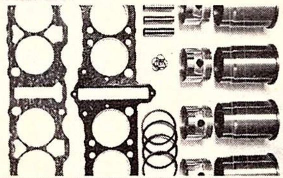
JUST A FEW OF OUR BARGAINS!



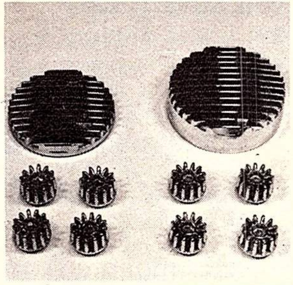
Honda Glas-pak Cross-over "Drag" Pipes
CB750 **$66.50**



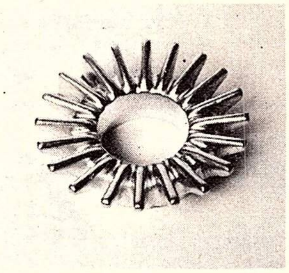
CB500 **$66.50**



Honda "Big Bore" Kits
CB750 900cc
$125.00
CB500 600cc
$107.50



Honda 10 piece Finned Cover Kits (8 valve, rotor 1-point cover)
CB 750/4
$21.00 kit
CB 500/4
$21.00 kit
CB 350/4
$21.00 kit



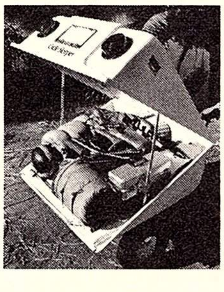
Honda CB 750 "Sunburst" Large Header Clamps
$16.80 sets of four

Tanks, Fork Tubes, Handlebars, Cable Kits, Highway Pegs, Mufflers, Sissybars, Frames, Hardtails, Saddlebags, Windshields, Seats, Tires, and much more for: *HONDA, YAHAMA, KAWASAKI, SUZUKI, TRIUMPH, BSA, NORTON, HD etc.*

FREE CATALOG

TOMBSTONE CYCLE
820 Kildonan Drive, Winnipeg, Manitoba,
R2K-2E9, Canada

CIRCLE NO. 44 ON READER SERVICE PAGE.



Freedom Now!

Cycle Sleeper® - A camper just for bikers lets you go, and lets you stay.

Camping with a motorbike or cycle just became a whole new adventure. Cycle Sleeper takes to the road with you. It holds your gear by day, and at night, there is room for two to sleep under a protective nylon cover.

Go where you want. Stay as long as you want. It's all possible now. Cycle Sleeper's high impact molded body over steel construction will take the roughest roads and never lose its shine.

For full details on how you can hitch up to a Cycle Sleeper, call or write Sleep-Pak, Incorporated, 1412 North Central Avenue, Phoenix, Arizona 85004, (602) 257-1372.

Sleep-Pak

(F.O.B. Phoenix, AZ.)
Delivered demounted with full assembly instructions
Cycle Sleeper® — A New Freedom
Dealer Inquiries Invited.
CIRCLE NO. 41 ON READER SERVICE PAGE.

Planning to move?

Let us know **8 weeks in advance** so that you won't miss a single issue of **CYCLE.**

Attach old label where indicated and print new address in space provided. Also include your mailing label whenever you write concerning your subscription. It helps us serve you promptly.

Write to: P.O. Box 2776, Boulder, CO 80302, giving the following information:

- ☐ **Change address only.**
- ☐ **Extend my subscription.**
- ☐ **Enter new subscription.**

- ☐ 1 year $7.98
- ☐ Payment enclosed (1 extra BONUS issue)
- ☐ Bill me later

If you have no label handy, print OLD address here.

AFFIX LABEL

name ______ please print
address ______
city ______
state ______ zip-code ______

C-2-75

name ______ please print
address ______
city ______
state ______ zip code ______

Add'l postage: $1 per year outside U.S., its possessions & Canada.

BASICS: *Continued from page 58*

Battery electrolyte has a higher density than pure water, and its density changes according to the percentage of full charge in the battery. Most batteries are fully charged if their electrolyte has a specific gravity of 1.26 at 68°F. (1.26-times the density of water.) Half-charged the hydrometer—an instrument used to measure the specific gravity of fluids—would read only 1.16. It should be noted that these figures are for 68°F. At lower temperatures the specific gravity reading will be misleadingly high, and the reverse is true when the battery is warmer. You can find conversion charts in most shop manuals.

The most common cause of battery failure in motorcycles is winter. Electrolyte will freeze and burst the battery case at very low temperatures—but usually only if the battery has lost its charge. The catch here is that you don't ride your bike in really cold weather, and its battery will slowly go flat when the bike is in storage (it should be recharged at least once each month). And even if Ol' Man Winter doesn't get your battery directly, through freezing, long neglect will bring ruination. In a battery that is close to being completely discharged the plates "sulphate," their surfaces becoming coated with a white lead compound that can destroy their ability to function. Sometimes a battery that is quite badly sulphated can be restored to some semblance of health by first charging it at a high rate, then discharging at an equally high rate. This will shock the sulphates off the battery plates (bumping the case gently against your work bench may speed the process) and let them fall down to collect in a kind of sludge. If the sludge is deep enough to bridge between the plates it will create short circuits inside the battery, and should be removed by flushing the battery case with distilled water, after which a fresh volume of electrolyte must be added.

In all contacts with batteries you must assume that you're going to spread a little of the sulphuric acid here and there. You already may have learned that where the acid is, numerous other substances aren't—like paint and cloth and sometimes skin. So when you're doing battery work first make up a batch of baking soda (sodium bicarbonate) in solution with water. Brush or wipe this soda solution over a battery and surrounding areas until it stops fizzing in reaction to the acid and everything will be nicely neutralized. Another acid-related problem (which gets an assist from another kind of electrolysis) is corrosion between the battery posts and the battery cable and fittings. That moldy looking powder is an insulator, and that's the last thing you want in an electrical connection. Smearing the battery posts with a film of petroleum jelly will prevent this form of corrosion.

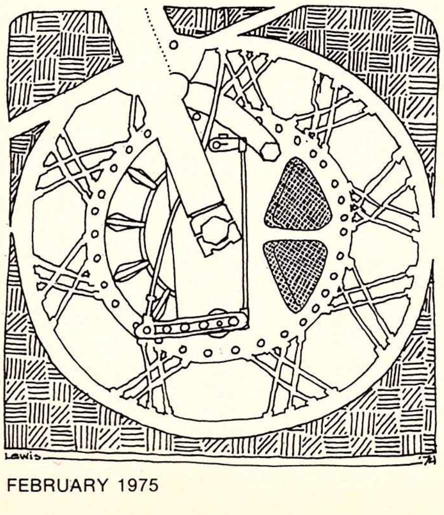
Vibration will ruin a motorcycle's battery, by shaking its plates apart, but this no longer seems to be the problem it once was. More rugged battery construction and carefully designed, rubber-cushioned mounting boxes have made plate fractures a comparitive rarity.

That leaves one path to the destruction of a battery, and that's the direct-shunt electrical load. Just as too-rapid charging will damage a battery's plates, things get very hot and bothered if something creates a direct, low-resistance path from the battery's positive and negative terminals. Can't happen? Sure it can: batteries share most motorcycle's underseat storage area with a tool-roll and other oddments a rider doesn't want to carry in his pockets, and if a wrench works its way down into contact with the positive terminal post and the frame (ground) there's going to be an almighty sparking, and a direct shunt.

Fuses are provided in motorcycle electrical systems to protect against less-direct shunts, which occur when a wire's insulation frays away and provides a direct wire/ground contact. You find these beauties with an ohmmeter, which is the most useful circuit-checking instruments a rider can have. Disconnect the bike's battery (to protect the meter) and start checking for electrical continuity between electrical leads and ground, or between, say, the red wire at one end of a long wiring loom and the lead with the same color coding at some other point along the loom. Of course, if you get this deeply into electrical trouble-shooting, you'd better have a shop manual to go along with the ohmmeter, because the typical owner's manual doesn't give you values for what the various circuit resistances should be.

On the subject of lights there isn't much to be said because you can't fix a broken headlight filament. But you may lose a tail-light some dark night and drop into a service station to inquire if, by some chance, they have a replacement. Chances are they will, if by a replacement you only mean a bulb that will fit into your bike's tail-light socket and do the kind of lighting expected of it. You'll be delighted, for a while, but chances are that bulb won't last very long. Ordinary automotive bulbs fit motorcycle light sockets; they don't have filaments strong enough to survive long when subjected to motorcycle-level vibration. Neither are automotive headlights entirely suitable for motorcycles, as they often have a beam pattern that just doesn't do much to illuminate the road ahead when you have your bike heeled over carving around a turn.

This is about as far as we can take you with basics, and generalities. Each motorcycle has its own electrical peculiarities (often inflicted by its maker) and you need some instrumentation, at least an ohmmeter and voltmeter, along with the mandatory workshop manual to find your way through the maze. Just remember that electricity flows from the alternator to the rectifier (which, if one of its diodes fails, cuts charging efficiency enough to give problems with chronically low battery voltage) and then to the battery. Flow goes from the battery to all the system's elements, and the bike's frame is a common return conduit to the battery's ground terminal. And remember that defective switches are one of the most common of all electrical problems, if we ignore the battery problems made possible by all the manufacturers' electrical system economies, and made certain by the typical owner's lighthearted neglect. ◉



NOW...CUSTOM CYCLE INSTRUMENTATION FROM VDO

Enduro Speedo
The VDO Enduro is designed for off-road riding where accuracy is important. 3⅛" diameter, it includes an odometer and resettable trip counter which reads in tenths, settable forward and backward. It's housed in a rugged black case with lighting.

Biker Tach & Speedo
For road riding, VDO has the Biker models — tachometer & speedometer. Both are 2⅜" diameter, chrome plated for a truly custom look. The Biker Speedo with odometer reads to 160 mph, the Tach to 12,000 rpm. Bold, beautiful and lighted, install them individually or as a pair.

Calibrated and packaged by cycle brand and model. Custom fit cables available for easy hook-up to factory hubs.

VDO®
First in Quality ...Worldwide

World famous VDO brings you custom cycle instrumentation that sets a whole new dimension in looks and performance. The Biker instruments are ideal for early custom modifications to your cycle. And what a great pair of instruments for cafe racers and chopper builders.

For off-road performance, the ruggedly built VDO Enduro Speedometer has demand features that measure up to your most challenging riding needs.

VDO instruments have a strong warranty. Further, each VDO instrument can be re-calibrated by any of our 48 authorized service centers should you want to retain them for your next bike. Get it all together now with these precision instruments from Germany . . . VDO.

Get them at your favorite cycle dealer now — or send one dollar for catalog.

VDO INSTRUMENTS
Cycle Division, 116 Victor, Detroit, Mi. 48203
or 6109 Lankershim Blvd., N. Hollywood, CA 91605
CIRCLE NO. 42 ON READER SERVICE PAGE.

AKRONT ALLOY RIMS
A Rim That Doesn't Ream Your Wallet

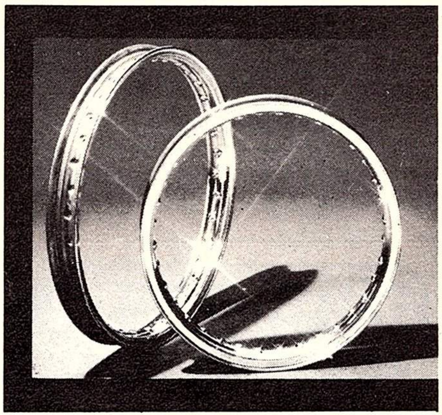
Winning may mean everything to you, but why spend more than is necessary for a rim that helps you win? After all, money's important, too.

For the most part, there are two rims on the market that are superior to any others for dirt riding conditions. Both offer virtually identical features. Like:

- **Lightweight aluminum alloy construction**
- **No ridge to fill with mud**
- **Heat-treated for increased tensile and proof stress**
- **Deep knurling to prevent tire slippage**
- **Flash-butt welding for rigidity at weld points**

All the important factors compare. Except the price. Akront Alloy Rims are priced from $22 to $36. Is it necessary to spend up to $50 for a rim with the same technology as Akront?

That's the question many pros, experienced dirt riders and accessory dealers are asking right now. We're sure there'll be some changes made.



WM-0	16 to 19 in.	$22.00
WM-1	16 to 19 in.	30.00
WM-2	16 to 19 in.	30.00
WM-3	16 to 19 in.	30.00
WM1 & WM2	21 in.	30.00
WM 3.5 Harley Type	16 in.	32.00
WM 4½ Offset Rim	16 in.	32.00
WM1, 40 Hole Speedway Type Drilled	23 in.	36.00

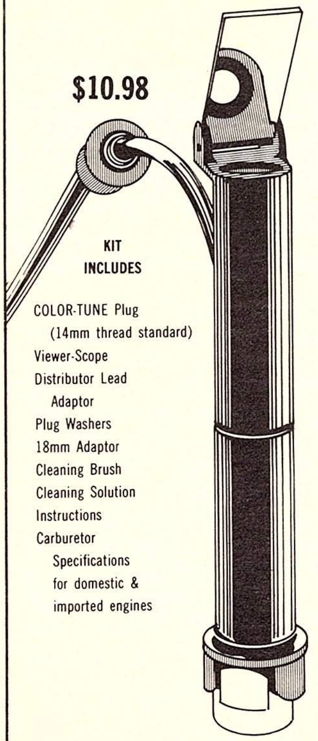
(When ordering, please specify year, model and make)
Dealer Inquiries Invited

Ask your dealer or write: Dept. C

AKRONT NORTH AMERICAN
P.O. Box 2307
Anaheim, Ca. 92804

CIRCLE NO. 38 ON READER SERVICE PAGE.

IMPROVE PERFORMANCE
SAVE TIME! SAVE MONEY!
Tune Your Own Carburetor With COLOR-TUNE



$10.98

KIT INCLUDES
COLOR-TUNE Plug (14mm thread standard)
Viewer-Scope
Distributor Lead Adaptor
Plug Washers
18mm Adaptor
Cleaning Brush
Cleaning Solution
Instructions
Carburetor Specifications for domestic & imported engines

COLOR-TUNE is the precision carburetor tune-up tool which helps you keep your motorcycle in top condition. COLOR-TUNE plug fits into spark plug hole and attaches to plug lead. With engine running, you see the color of the engine's combustion through COLOR-TUNE's Borosilicate optical glass. By comparing the color in the viewer scope with those on the color chart indicator, you are able to determine if the fuel mixture is too rich or too lean. The engine can then be set for maximum economy, performance, or lowest emissions by adjusting until proper color of combustion is seen. Takes minutes to have a beautifully smooth running engine. Do a professional tune-up on *any* engine for a fraction of the usual garage cost. Order today!

MOTOR PRODUCTS 303 N. San Fernando Rd. Los Angeles, CA. 90031

Send me ______ COLOR-TUNE Kits
@ $10.98/kit + .60 handling $ ______
(CA. res. add 6% sales tax)

Name ______

Address ______

______

MOTOR PRODUCTS 303 N. San Fernando Rd. Los Angeles, CA. 90031

KANEMOTO *Continued from page 41*

down and weighing everything because, well, everyone was aware of the weight of those things. Figuring out what to do with the Suzuki was fairly easy because when I'm at the races I try to be aware of everyone's problems, and I kind of log everything in the back of my mind. So after we signed with Suzuki it was just a matter of remembering what put them out of races last year. Most of their problems were with weight, and with handling. They weren't real good handlers, as you probably know.

"I think that getting good handling is just a matter of basics, but it takes a lot of time and work. Last year Boge made us those shocks we could alter, changing the compression and rebound damping, with various springs. We just tried different combinations until Gary felt it was right. We'd work out something and if we thought it was a little stiff we'd mention that to the shock people and they'd change it for us. But we never separated things, and I'm not really sure what combination of damping and springs would have been perfect. It was just a trial-and-error kind of thing, and we have a different problem this year because of the weight of the bike.

"We moved the shocks forward on the Kawasaki last year, and we've done it with the Suzuki. We did that to get a little more travel, because we felt that the bike would come off corners a little better—a little smoother. I think there's a real advantage in the forward mounted shocks, but I feel it's mainly because that keeps the frame from flexing: it's moving the top shock mount closer to a stiffer area and not wanting to twist that whole back section. I talked to DeCoster and those motocross guys and they felt the forward-mount shocks were working not because of the wheel travel but just because they didn't flex the frame so much, and let the bike run straighter over the hard bumps. So I thought right away, well, I could apply that to the road racers because you do run into problems up in the bankings. But then I began to worry about the extra wheel travel changing the steering geometry a whole bunch under braking and acceleration, and that's something I'm going to work on this year during the winter. It's an area that needs looking into.

"We have done some frame testing at home, with the frame clamped down on a table and prying at the thing with bars, and pushing, and we really learned a lot from seeing where it moved. At first I thought that rear section was just a hanger for the tops of the shocks, but it actually distorts the whole frame a lot when you start prying back there. That's basically what we did with the Suzuki frame: we got three or four people pulling on the thing and you could see it move. It was pulling the top rails and you could really see it move down at the bottom, so we braced it down there. You can stiffen things up at the fork head, too, just tying things together, without really adding a lot of weight.

"The first frame I made had real large diameter tubes. I took it to a dirt race and people gave me a really hard time because they assumed it weighed a ton. And it did look terrible because the tubes were maybe a quarter-inch larger diameter than any other frame—but it was rigid and that's important. Until you've established that, what we've found is that steering geometry means nothing. You just work in a big circle and all you get is steering that's a little lighter or heavier; it doesn't solve the basic problem.

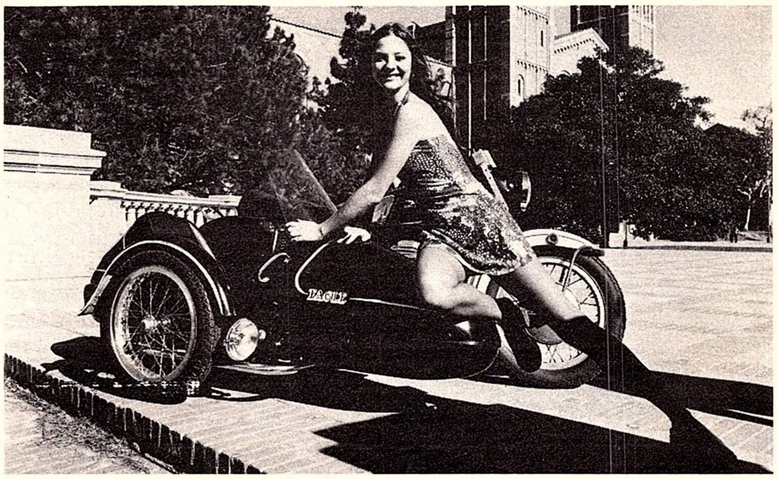
"That's one of the things we noticed when we changed the Suzukis Paul Smart and Cliff Carr had ridden at Loudon. They wanted the same geometry as Gary's bike and I tried to explain to them I didn't think it would work because the standard frames just don't tie things together, yet they wanted it anyway.

"The people at Suzuki really are smart, but it's like the engines are good because they have dynamometers, but with the chassis there's nothing to measure results. There are ways, the car people have proven that, but I guess the motorcycle people are just backward. Maybe they're just totally unaware that there's a problem. And there's a problem with riders. I know that Kawasaki built frames to suit their test riders and those frames didn't work here. The riders' styles and the courses . . . well, I guess I shouldn't say the courses . . . but the riders are different. Ours are a whole bunch faster, and they work the chassis a lot harder.

"For our own frame, we made some eccentrics that would fit into the fork crown, and by rotating those we could change the steering trail. I really felt that we knew what we wanted, and yet we needed something we could change at the track to prove it—and that seemed like the simplest way. It had to be a quick-change set-up because if you have to pull the whole front end out and don't get back on the track for an hour and a half, the rider or track conditions will have changed and there's no way you can prove anything. By making things adjustable we could change the whole combination in five minutes and be back out on the track.

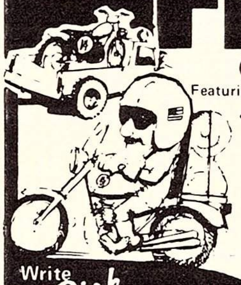
"At Daytona Gary mentioned that he thought we had too much fork rake, but Suzuki wanted a lot of rake to keep the bike stable, so it would run straight. But when they did that the riders had a lot of trouble steering the things, and then they changed the trail in the opposite direction to make the bike steer quicker. But this made it really terrible on some of the smaller courses, and the thing would tend to wobble when it was set up that way. A bump would tend to set it off and then it would keep wobbling. Gary said at the time that we should just pull the front end in. I felt that we should change the trail also, but the Suzuki people said

HELP AMERICA STOP INFLATION
A spirit of America sidecar and a motorcycle is far less than a car.

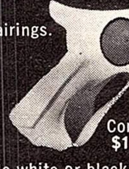


A Spirit EAGLE Sidecar might be just your solution this year.
For information write: *Spirit of America Mfg. Company*
500 S. Douglas St. El Segundo, CA 90425 (213) 679-0143

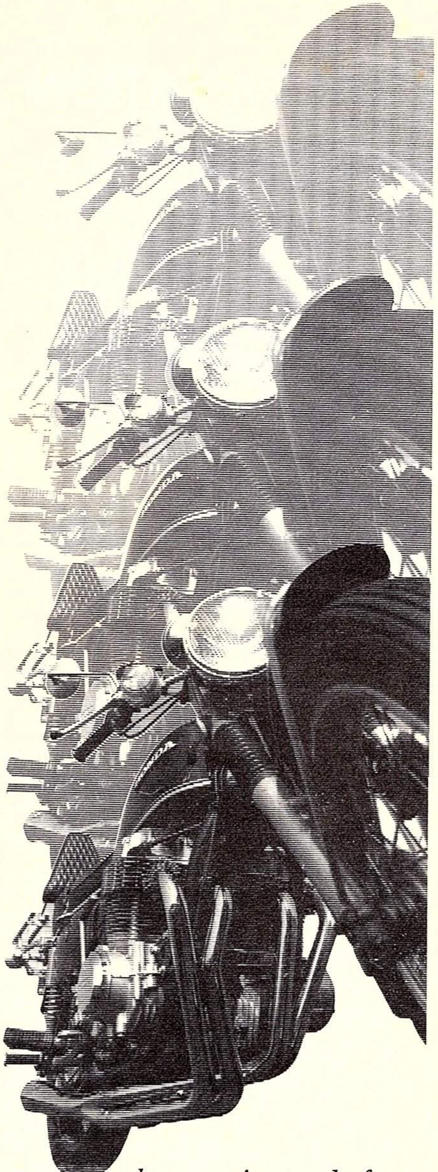
MOTORCYCLISTS!
VAN and PICK-UP OWNERS!
send for
116 page
FREE
CATALOG
Featuring ARMSTRONG Tires
Chuck full of off-road, camping and touring items for you and your truck. The greatest selection of wide wheels, tires, roll bars, portable sinks, cooking stoves, and much, much more are available. Foreign & Canadian requests please send $1.00 for special mailing
Write to: Dick CEPEK® Dept. CM
9201 CALIFORNIA AVE. SOUTH GATE, CA. 90280
© COPYRIGHT 1975 DICK CEPEK, INC.



CAFE RACERS!
RACER I
3/4 FAIRING
Newest look in cafe fairings. Take off on European racing look. Clean lean styling offers less wind resistance and high speed stability. Quality construction. Paintable white or black, windshield in clear or smoke. Hardware included, easy installation. Fits all popular models.
Complete $135.00
SEND $1.00 FOR NEW CATALOG
DEALER INQUIRIES INVITED
DICK'S CYCLE WEST
304 Agostino Road
San Gabriel, Ca. 91776/(213) 287-9656



LEARN MOTORCYCLE MECHANICS
THE FIRST AND LARGEST EXCLUSIVE MOTORCYCLE MECHANICS SCHOOL IN THE USA
For information on learning motorcycle mechanics fill out and return today
AMERICAN MOTORCYCLE MECHANICS SCHOOL
2840 N. HALSTED STREET
CHICAGO, ILLINOIS 60657
AMERICAN MOTORCYCLE MECHANICS SCHOOL
13700 N.W. 19TH AVENUE
MIAMI, FLORIDA
33054
Name Address
City State Zip
Age Phone-A.C.( ) ( ) I am a Vet. c



when you're ready for more bike . . . get Hooker. The sophisticated high performance exhaust system.

SEMA MIC

And there is still more to Hooker . . . Now, Hooker has auxiliary gas tanks & air filters for your RV. And all with the same thorough Hooker quality. Ask your dealer. Or, send us $1.25 and we'll send you all the information we have on all of HOOKER INDUSTRIES . . . Hooker Headers, Hooker motorcycle exhaust systems. Hooker snowmobile exhaust systems, Marlin Boats and Murdoch Water Ski plus Hooker and Murdoch decals. Write us at Hooker Headers, P.O. Box 1010, 1032 W. Brooks Street, Ontario, California 91762.

HOOKER HEADERS (TM)

CIRCLE NO. 39 ON READER SERVICE PAGE.

they'd tried all that years before and it didn't help; I think that basically if there wasn't any gain in their testing, it was because the bike's frame really wasn't rigid enough.

"You have to compromise with steering geometry. Gary's fairly strong, in good shape physically, and he talks about having to push on one side and pull on the other to get our bike to turn. Yet that kind of steering makes the bike fairly stable, and that's what we're looking for. A lot of it is just suiting the rider: what works for Gary won't necessarily work for Paul or someone else with a different style. Mostly it's a trial and error thing. You do something and it works and then later you try to figure out why it worked. When you're racing, whatever works just does and it doesn't matter why, but later you do try to figure it out. Sometimes it proves your beliefs, but then a lot of times it's just totally different.

"The factories are the only ones who can really manage handling because they're the only people who have the time. That's where people like Kel Carruthers have had a definite advantage: they have enough people working, and enough top riders who can use a bike to its potential, to learn a lot very quickly. But when you run just one bike it's really hard. I'd like to try it all with factory backing because right now I feel that I'm just scratching the surface—but you can't do it all on your own. Before, I wanted to do it all myself; I'm coming to find out there aren't enough hours in the day for that approach. You have to have people around who can do the work for you—especially now, with all the factories in racing. When Yamaha is serious enough to build a GP bike like the TZ750 it takes a lot of work to put anything out in front.

"Some handling problems don't have anything to do with frames or geometry. I remember one time at Daytona Gary couldn't get through the banking without the bike wobbling so bad he'd have to shut it off. Something was happening but I didn't know what it was. Gary would come in and say, well, 'I can't get this thing through the banking wide open,' and I didn't know what to do. But this fireman who'd been standing by the corner came up and told me that Gary had a completely different line from anyone; he's riding really low. So I started thinking about it, and realized that the track was fairly rough in the lower lane and it was hitting those bumps that would get the bike wobbling. We talked about that, and Gary started taking a higher line that let him miss most of the bumps, and that made the bike a lot more stable—but it was a fireman who pointed that out to me, and I should have seen it myself. Once I make a mistake I remember it, and now I'm aware that bumps will set a lot of bikes off into a wobble.

"Another thing we learned years back is the importance of wheel alignment, just

STOP LOOK and BUY!

CIRCLE SPROCKET
1/3 THE WEIGHT OF STEEL ■ MADE OF HARDENED ALUMINUM ■ REDUCED UNSPRUNG WEIGHT ■ GIVES BETTER HANDLING AND RIDING STABILITY ■ INDIVIDUALLY PRECISION MACHINED TO AMERICAN GEAR MFG. ASSOC. SPECS
48
quality motorcycle products

STOP by your nearest dealer and see our complete line of accessories, from sprockets to footpegs. **LOOK** and examine them closely. For years we at CIRCLE INDUSTRIES have maintained a high standard of quality in all we manufacture. Each product is tested under rigid specifications, assuring it's the best available. Now we skin package them showing exactly what you're getting, and marked clearly for easy identification. So next time you're buying motorcycle accessories — seek out our new bright blue and black CIRCLE INDUSTRIES packages. **STOP, LOOK** and **BUY** the **BEST!**

Our new '75 catalog with specs' and prices on our sprockets and many other products is now available for $1. Send for your copy today!

CIRCLE INDUSTRIES ®
quality motorcycle products

17901 ARENTH AVE./DEPT. C
CITY OF INDUSTRY, CA. 91748
PHONE (213) 965-1622

CIRCLE NO. 48 ON READER SERVICE PAGE.

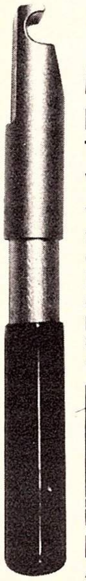
a simple thing like that. A lot of people rely on a mark some guy on a production line decided was the proper place, and that's usually wrong. I have seen the factory guys use strings to align the wheels, but then I saw someone—and I forget who it was—using a straight-edge. That's what I've been doing ever since. You can't just slap the straight edge up against the tire because it may not be perfectly round; when you spin the wheel you'll see it wobble. So you have to kind of see how much wobble there is in the tire and split the difference. Mag wheels are great but some of the tires aren't true. Sometimes it's just the way they ship them, but a lot of times you'll notice they do have a little alignment problem.

"I've never had to do much carburetor sorting on the racing bikes, because they're pretty close when they ship them. But we do have to change them a little for different tracks and conditions, and it's just amazing the way it changes lap times when it's exactly right. I guess there are people who aren't aware of the advantages of having the carburetion just right. Especially at a track like Loudon you can tell yourself, well, it has that low gear and it's going to accelerate regardless—but a bike is so much easier to ride when it's carbureting right.

"I'd like to have a room for just building engines and I'm working toward that in my own shop. Maybe next year I'll have it that way. I've been to Gurney's place and a few others, and while I'm not saying an air-conditioned clean-room is necessarily the answer, I really feel that's the level I'd like to race at because you have to take advantage of everything. Most of the time now I'm assembling engines at the race track and I guess . . . well, they *do* intake a lot of dirt through the carburetors on the track anyway, don't they? So maybe it doesn't matter.

"Conditions aren't perfect for anybody, really, but I think it's more important to have a feel for engines, for the way they go together and the way things line up and all. And you have to make sure everything is well lubricated so the initial starting of the engine doesn't do any damage. Most guys won't put an engine together with dry bores, but they'll put it together with everything else dry. And they don't pay attention to the job, generally, looking at the parts carefully. That's one of my pet peeves. I guess some problems do arrive from the factory, maybe somebody assembled an engine wrong, but then you see someone yell and scream and jump up and down because there was a faulty part or something. And he could have caught that and corrected it, you know. The people who put engines together at the factory are just production line workers and you can't expect them to have a feel for racing parts; you can't blame them for putting an engine together dry.

"Still, there are times you wonder.



TIRE CHANGING'S A BREEZE!

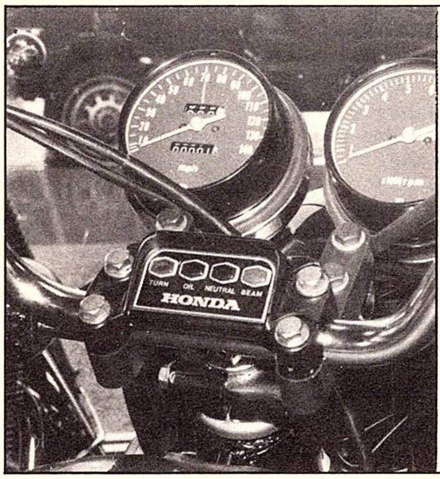
BREEEZER, MOTORCYCLE TIRE AND TUBE CHANGING TOOL, SAVES YOUR TUBES, RIMS AND KNUCKLES.

The Breeezer tool is designed to work on the same principle as the hydraulic machines used in gas stations. Insert the tool between the tire and rim, and with a few strokes of a hammer, the tire is off. **Eliminates pinched tubes** • Helps prevent scratching rims • Designed for all types of motorcycle rims and tires • Easy to use • Saves costly shop repairs. ONLY **$7.95** EACH

GUARANTEE
If not completely satisfied, return within 30 days for full refund.

BREEEZER™
A PRODUCT OF ROJEN B

Send check or money order today to:
BREEEZER™ / P.O. BOX 7380, DEPT. C
VAN NUYS, CA 91409
Enclosed is $____ for____ Breeezers at $7.95 each (including postage and handling). California residents add 48c sales tax for each Breeezer.
NAME ____________
ADDRESS ____________
CITY ________ STATE ______ ZIP ______



WHY STRETCH!

Tired of Bending Over? Then sit back and relax on your bike with a pair of

SET BACKS

Move your handlebars back where you can reach 'em. Yes, move 'em back over 2 inches without changing cables or hoses in 30 minutes!

FITS HONDA YAMAHA SUZUKI KAWASAKI BMW

Send only $12.95 plus .50 postage to
CREATIVE ENTERPRISES
Box 13640, Fort Worth, Texas 76118

State Make & Model!
Texas res. add 4% sales tax.

LEARN MOTORCYCLE MECHANICS

THE FIRST AND LARGEST EXCLUSIVE MOTORCYCLE MECHANICS SCHOOL IN THE USA

For information on learning motorcycle mechanics fill out and return today

AMERICAN MOTORCYCLE MECHANICS SCHOOL
2840 N. HALSTED STREET
CHICAGO, ILLINOIS 60657

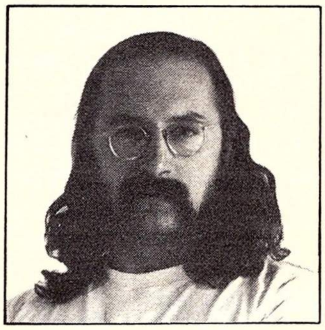
AMERICAN MOTORCYCLE MECHANICS SCHOOL
13700 N.W. 19TH AVENUE
MIAMI, FLORIDA
33054

Name ____________ Address ____________
City ____________ State ________ Zip ________
Age ______ Phone-A.C.( ) ______ ( ) I am a Vet. C

Bassani speaks out on noise.

WE BELIEVE IN QUIET!

We at Bassani Manufacturing are deeply concerned about unnecessary and excessive exhaust noise, that's why in 1970 we were the first to stop making conventional expansion chambers and committed our efforts to the design and building of "Quiet Pipes". And since then we continued to improve and perfect cycle exhaust systems to yield maximum performance at minimal sound emission. We have proven that a well engineered silenced exhaust system can perform as well or better than any loud exhaust. So there is no reason to run noisy exhausts on the street or on the track. Yet we still see cyclists with loud, noisy chopped and butchered mufflers or open exhaust pipes. If you are running a stock exhaust, KEEP IT STOCK! If you want an accessory exhaust system, buy a good reputable brand name, whether it is a Bassani system or someone else's. Don't attempt to remove the baffles or modify the system to increase the exhaust noise level. For motorcycling's sake, KEEP IT QUIET!



Our business is making and selling QUALITY and QUIET EXHAUST SYSTEMS.

Bassani® Manufacturing

QUALITY & PERFORMANCE WITHOUT COMPROMISE

Send 50¢ for brochure.

3726 E. Miraloma, Dept. C, Anaheim, CA 92806 (714) 630-1821

EVENT INSURANCE

RACE
OFFICIALS
BICYCLE MX
HIGH SCHOOL
MX
SPONSORS
OWNERS
SPECTATOR
PROMOTER
PREMISES
PRODUCTS
RIDERS
PITMEN
FLAGMEN

Call or Write Today:
TOM ALLREAD, Vice President
E. BROOX RANDALL
1132 N. VINE ST., DEPT. C
LOS ANGELES, CA. 90038
(213) 462-2111 Ext. 250

E. BROOX RANDALL & SONS INC. INSURANCE ®

INSURANCE FOR EVERY PURPOSE

COMPLETE MOTORCYCLE EVENT LIABILITY & PARTICIPANT MEDICAL SINCE 1922

You'd have to wonder why Yamaha supplied that pipe arrangement for the public, the privateers. You'd think if they went to just one of the races they'd have seen what Kawasaki and Suzuki did to get their pipes around things, and then they wouldn't have sent those flat-sided things that break all the time."

Erv looked properly outraged at Yamaha's failure to provide expansion chambers that wouldn't shatter, as he does when thinking about anyone who doesn't—as he frequently mentions—"put out 100-percent." We took advantage of the pause to ask him where he thought the new tuners would be coming from. There is riding talent in abundance, but really good tuners—ones who can make the title mean something—are rare. Kanemoto had no answer, but told us a story:

"Two years ago, I think it was, I saw this advertisement and it said U.S. Suzuki was looking for factory mechanics to travel all over the country, for the Nationals. I saw the ad running for a couple of months and one day I saw Paul Garnant, who was Suzuki's race manager at the time, and I asked him, 'How's the employment thing working out?' And he says, 'Well, I get these kids from the south and people from here and there and they say they're going to quit high school to be a race mechanic and see the country.' Paul said they had absolutely no idea of what was involved; they thought it was a way of seeing the country and being around famous people. It's a lot more than that, and if you're going to get into it maybe you should think more about going to college than quitting high school.

"The reason I have no formal education beyond high school is because I was always searching for something that would get me involved in racing. And I feel it's limiting me now because I have to rely so much on other people, and because it has taken so long to learn things I could have picked up faster in school. But it is great, too, that you can just pick up the phone and call someone who really is an expert in some area. I have a good friend in metallurgy, and I'm constantly on the phone with him.

"One reason I admire Dan Gurney is because he's got the whole thing right in his shop. He doesn't do it all himself because he's got people working right there who can figure out problems for him. I have to do the same thing, in a way. When we started on this frame this year I knew basically what was needed, yet I went to a frame company—C&J, who make the frames for Dallas Baker—and asked them to build it to my specifications. They're real craftsmen and even though I feel I *could* do the work the time thing just won't let me do it all myself.

"I rely on a lot of other people, too. Bobby Strahlmann is one of them, and he's really great. At Daytona when I first tied in with Gary and we were running

(Continued on page 102)

The first person to ever ride a Hodaka 100 Dirt Squirt™ came back giggling about wheelies, jumps, sliding, etc. The second person to ride it was soon to coin the phrase "Fun Hundred." Chances are, if he hadn't, the third rider would have.

Why?

The Dirt Squirt has a low seat height so that you feel like you are part of the bike -- not like you are perched on top of it. The Squirt's light weight, proven frame geometry, low center of gravity, knobby tires and two-position shock absorbers add up to one of the best handling motorcycles on the market.

Power. Unlike some engines with power that comes on at high RPM's, the Hodaka's 100cc five-speed engine offers smooth, predictable power...over a broad RPM range. It's an engine that can go slow as well as fast. You can literally walk alongside the Dirt Squirt and it won't stall. With this kind of control, riding is pure pleasure.

The Dirt Squirt requires little maintenance and most repairs can be made with a few simple tools. You don't have to spend a lot of time keeping the Dirt Squirt in running condition, which means you'll have more time to ride it.

With almost unlimited versatility (by virtue of its Hodaka heritage, the Dirt Squirt is able to accept hundreds of bolt-on options that can transform the basic "Squirt" into a motocrosser, enduro, etc.) the Hodaka 100cc Dirt Squirt can be about anything you want it to be. Just another reason why we call it the "Fun Hundred."

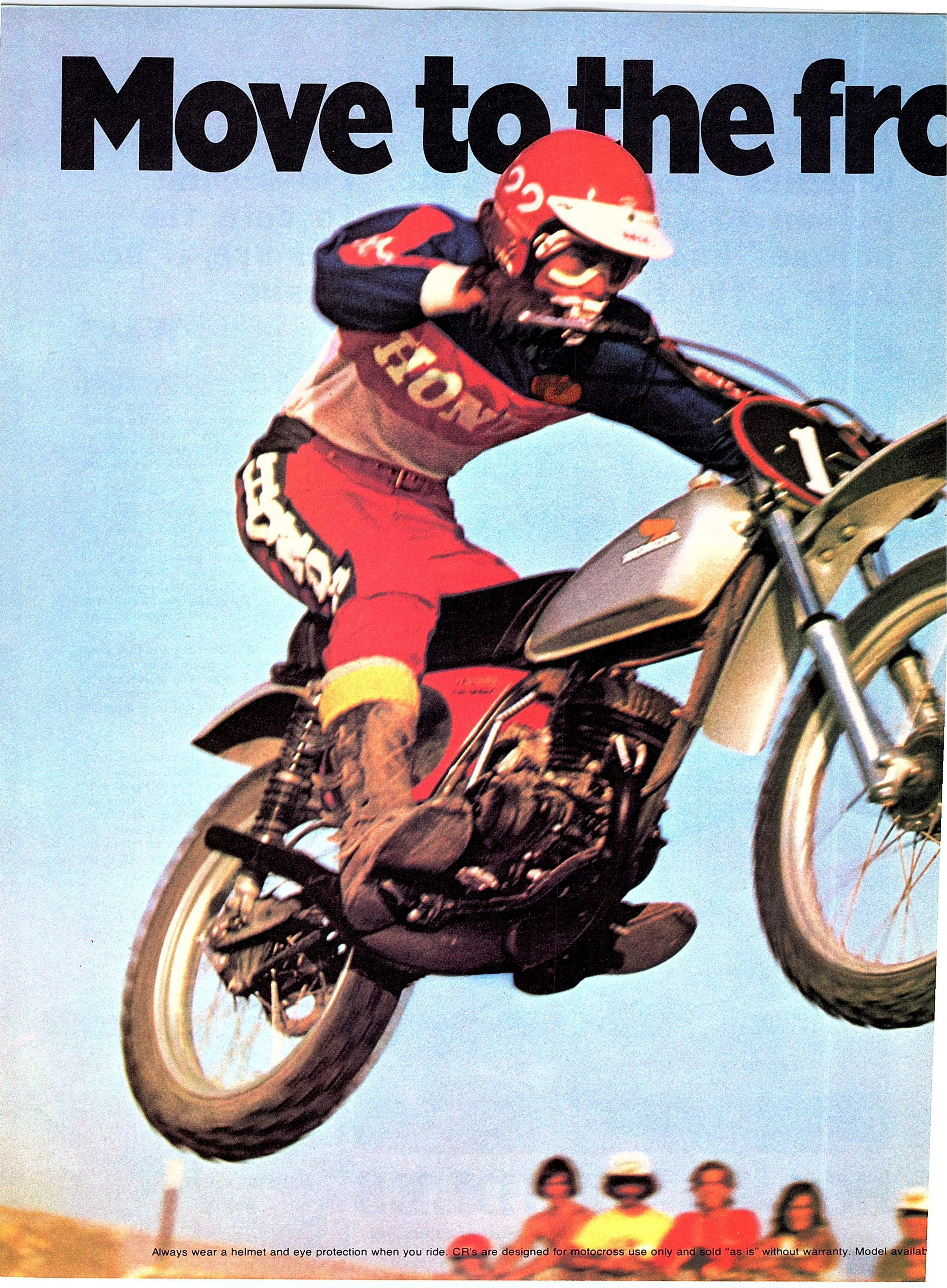
FOR MORE INFORMATION about Hodaka Motorcycles, look in the yellow pages for the Hodaka Dealer in your area . . . Or send your name and address, plus 25¢ (to cover cost of postage and handling) to the address below and we will send you a copy of the "Hodaka Story" and direct you to your nearest Hodaka expert. Canadians: Vancouver B. C. Australians: Sport and Road Pty., Ltd. P. O. Box 37, S. Melbourne, Australia 3205.

HODAKA® HANDLES

PABATCO
P.O. BOX C-2
ATHENA, OREGON
97813

HODAKA SALES SERVICE®

CIRCLE NO. 28 ON READER SERVICE PAGE.



Always wear a helmet and eye protection when you ride. CR's are designed for motocross use only and sold "as is" without warranty. Model availab

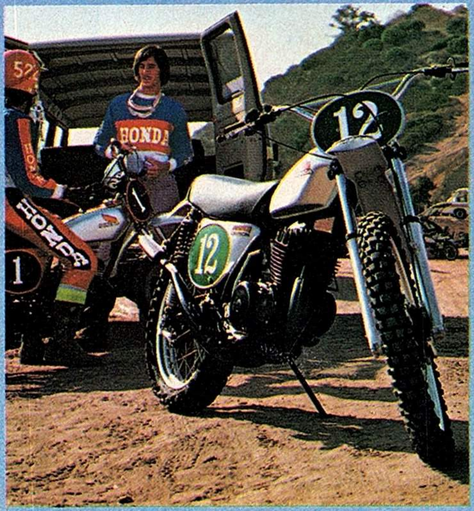
nt of your class.

The Honda CR's.

When high school senior Marty Smith took the #1 plate in the National AMA 125cc motocross class, he was riding the #1 bike—the 125cc Honda Elsinore.™

What makes it the #1 bike?

The top four places in the class all went to Team Honda. And there were only four Team Honda racers in the 125cc class. And the *only* bike they rode was the Elsinore.



This year Honda has boosted the power on the two-stroke CR-125 to boost your chances of winning in motocross. The redesigned piston, cylinder and expansion chamber on the new CR-125MI give it a wider powerband and more peak horsepower. New rear shocks have larger rods for greater strength. And Honda has made other changes to increase the 125's durability.

More power, more durability—the new CR-125MI may well be in a class by itself for '75.

Our other front runner, the Elsinore CR-250M (inset), continues to win more and more races around the country. First year out, its rider also took the AMA #1 plate in the 250 class. No wonder. The amazing Honda Elsinore two-stroke engine combines the lightness of aluminum and magnesium with the strength of steel to create an incredibly lightweight powerhouse. The competition's still trying to catch up.

If you're serious about racing, see the Honda CR's at your nearby Honda dealer's. They can help to make you your class leader.

HONDA

Good things happen on a Honda.

CIRCLE NO. 24 ON READER SERVICE PAGE.

be limited. Write: American Honda Motor Co., Inc., Dept. OM, Box 50, Gardena, Calif. 90247. See Yellow Pages for nearest dealer. ©1975 AHM.

YOU'RE FIRST WITH KK

The "New Bell Star" gives 120° peripheral vision

BELL HELMET

- meets A.N.S.I. Z90. 1-1971 standards
- certified by the Safety Helmet Council of America
- impact resistant fiberglass shell with expanded polystryene padding
- can be used with goggles or other face shields; comes with snap on visor shield.

"THE ENTHUSIAST'S SUPPLY HOUSE"

KK Motorcycle Supply
431 E. 3RD ST., DAYTON, OHIO 45402 (513) 222-7818

KK SELLS TO M.C. DEALERS ONLY

MEMBER MOTORCYCLE INDUSTRY COUNCIL

MIC BELL MCM KLG LUCAS KONI

CIRCLE NO. 30 ON READER SERVICE PAGE.

Train for a Career in Aviation

•Flight Training
•Aircraft Mechanic
•Aviation Electronics
•Instrument Repair

Famous since the days of wood and fabric planes, Spartan continues to enjoy a world-wide reputation. **And, no wonder!** Its facilities include three campuses covering 28 acres, a quarter-million square feet of shop, hangar, classroom and administrative space . . . **plus** a skilled faculty, dozens of aircraft and millions of dollars worth of equipment, training aids, jet and piston engines.

FREE CAREER KIT

ASK US! We'll send you all the Facts on 18 Aviation Courses: Costs, Financing, Curriculum, GI Benefits, Faculty, Facilities, etc. 622

If you are interested in Aviation . . . you'll be interested in Spartan!

SPARTAN SCHOOL OF AERONAUTICS, DEPT. EA015
International Airport, Tulsa, OK 74151
Please rush me information on careers checked
☐ Flight Training ☐ Aircraft Mechanic
☐ Aviation Electronics ☐ Instrument Repair

Name_____ Age_____
Address_____
City_____ State_____
Phone_____ Zip_____
Include information on: ☐ GI Benefits ☐ Federal Student Loan Program Licensed by Private School Board of Oklahoma

GET YOUR NEW NORTON OR BMW FROM GUS KUHN — AND SAVE DOLLARS!

Gus Kuhn Motors of London, England, can not only save you cash, they can save you a lot of time and trouble. They're the acknowledged European experts on Nortons and BMWs — so you can depend that your cycle is properly set-up for you by engineers who know what they're doing. Whether you want a flexible, soft-tuned tourer, or a real quick racer, Gus Kuhns is the place to get it — just the way you want it. Write or telephone for immediate attention and personal service.

GUS KUHN MOTORS LTD
275 Clapham Road, London SW9 9BJ, England.
Tel: 01-733 1002.

GUS KUHN

the Kawasaki, things were working really well but one morning, after we had spent another night rebuilding an engine, the plugs looked really terrible: they looked like the thing had gotten a whole lot of spark advance or the compression was really high. I felt confident that I hadn't made a mistake or anything and there was nothing to change but then Bobby comes by the garage and I thought I'd ask him. I have a pretty good idea of what's right and wrong, and yet I like to have Bobby confirm things. So Bobby looks at them and says, 'You have too much spark lead.' Sure enough, when we checked it, the magneto had sheared a key, letting the timing slip. For some reason it wasn't tight on the taper. I hadn't thought I'd made a mistake but when I heard it from Bobby I figured I had better look into that area. I feel that I've learned a lot from Bobby, and some other people. Everything seems simple now, after you've discovered a problem, because there are specialists around today who can help with answers.

"Finding problems and working out solutions is what keeps me going. It's so satisfying to know that you actually can figure something out. Maybe you just stumble onto the answer, because there are always so many combinations you're trying, but however it works that part of racing is really satisfying. I'd like to have more time for development. Last year we spent so much time just rebuilding things for the next race that there wasn't any time left for developing the bike the way I'd like. Racing is getting down to making the bike a complete, balanced combination. You can get the horsepower, but motorcycle chassis are still in the dark ages and I'd like to do something about that."

We had expected Erv Kanemoto, the tuner's tuner, would devote a lot of time just talking about engines. He didn't, and we don't think it was because Erv has any speed secrets; it's more like he considers engines almost a closed question, something he understands so well that it isn't really a challenge. Erv knows how to fit a racing two-stroke engine's pieces together so they'll work in reasonably comfortable cooperation; he knows the subtleties of coaxing the best from an engine with modifications so slight as to be very nearly invisible.

Kanemoto's confidence in his ability to manage engines was demonstrated at Daytona in 1974: Erv installed a fresh engine in Nixon's Suzuki the night before the big race and Gary came in from a morning checkout session all disturbed because the bike wasn't quite as fast as it had been with the practice engine. Nixon was vibrating with eagerness to pull the new engine apart and find that missing power but Kanemoto just sat on his toolbox, his big hands relaxed for the first time in a week, and informed Gary that nothing was wrong except that the engine was still a little tight and that in the race

(Continued)

Powerbred

by experts, for experts

The Triumph Trident—the Superbike that has five years of TT victories* built into every nut and bolt. The Superbike that combines big torque power with precision road-holding and effortless town handling. Get astride a Trident—the bike that was born on the race track.

*Trident—outright winner of the Isle of Man Production TT in 1970, 1971, 1972, 1973 and 1974.

CIRCLE NO. 29 ON READER SERVICE PAGE.

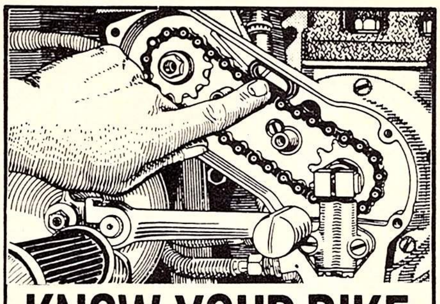
TRIUMPH Trident

FOR MEN WHO CAN HANDLE POWER

Norton Triumph

For the name of your nearest
dealer, write or call the
sole distributor:
Norton Triumph Corporation
2765 E. Huntington Drive,
P.O. Box 275, Duarte,
California 91010.
Tel. (213) 359 3221.

MIC



KNOW YOUR BIKE inside and out

Know how to tune it . . . to fix it . . . to rebuild it yourself. The TOTAL SERVICE MANUAL for your bike will show you how to do everything from a minor adjustment to a major overhaul.

TOTAL SERVICE MANUALS are digests of official factory workshop manuals. Each one is carefully rewritten for use by the do-it-yourself bike owner. Clear and easy to follow, yet complete and detailed enough even for professional use. You get all the important information plus hundreds of the best pictures, diagrams, and specification tables.

TOTAL SERVICE MANUALS

9840	**AJS & MATCHLESS** singles—57-66	$4.95
9841	**AJS & MATCHLESS** twins—55-65	$4.95
0534	**BMW** all 500, 650, 750 models—55-73	$6.50
3727	**BRIDGESTONE** inc 50, 60, 90 & 175 models	$3.50
0695	**BSA Bantam**—all models from 1968 on	$5.95
3725	**BSA** 250, 350, 500, 650 A, B, C models—to 68	$4.95
9603	**BSA 650** unit twin models—all to 72	$6.50
9650	**BULTACO,** all 125-250cc models	$7.50
0535	**CZ**—all 125, 250, 400cc models—69-74	$6.50
0610	**DKW, PENTON** with Sachs 100, 125cc eng—68-74	$7.50
3728	**DUCATI** 160, 250, 350, 450—all thru 74	$7.50
9614	**HARLEY-DAVIDSON 1-cyl**—all models—47-72	$6.95
9613	**HARLEY-DAVIDSON 2-cyl**—all models—55-72	$6.95
9649	**HODAKA**—90 & 100cc models—64-72	$6.50
3788	**HONDA** 50-90cc all inc Mini & trail—63-71	$6.50
9785	**HONDA** 1-cylinder—100-250cc—70-72	$6.50
3751	**HONDA** 2 cylinder—125-360cc—64-74	$6.50
3752	**HONDA Scramblers**—250 & 305cc—all years	$6.50
3749	**HONDA** 2-cylinder—450cc—65-74	$6.50
9602	**HONDA** 4-cylinder—350-550cc—72-74	$6.50
3755	**HONDA** 4-cylinder—750cc—69-74	$6.50
0608	**HONDA ENDURO**—125, 250, Elsinore models	$6.50
9779	**HUSQVARNA**—125-450cc—66-72	$6.50
3754	**KAWASAKI** 1-cyl—all 90-350cc—66-74	$6.50
3791	**KAWASAKI** 2-cyl—250 & 350cc—66-71	$6.50
9601	**KAWASAKI** 3-cyl—350, 500, 750cc—69-74	$6.50
0726	**KAWASAKI 900 Z1**—73-74	$7.95
9533	**LAMBRETTA** motorscooter—all models—57-70	$2.95
0613	**MAICO**—125-400cc—69-74	$7.50
9600	**MONTESSA**—all 123-360cc—65-74	$7.50
0505	**MOTO GUZZI**—V700, V750, V850—66-72	$7.95
0744	**NORTON 750, 850**—all models—66-74	$6.50
9794	**OSSA** 1-cylinder—all 125, 175, 250cc—71-72	$7.50
3790	**SUZUKI** 1-cylinder—50-400cc—64-74	$6.50
3792	**SUZUKI** 2-cylinder—125-500cc—64-74	$6.50
9784	**SUZUKI** 3-cylinder—380, 550, 750cc—71-74	$6.50
3753	**TRIUMPH**—all 500, 650, 750 models—63-74	$6.50
3747	**YAMAHA** 1-cyl—all 50-73cc rotary valve—63-74	$6.50
3748	**YAMAHA** 1-cyl Enduro—90-360cc—68-74	$6.50
3787	**YAMAHA** 2-cylinder—90-350cc—65-74	$6.50
9775	**YAMAHA 650** 2-cylinder—65-74	$6.50
0720	**YAMAHA TX750**	$7.95

MISCELLANEOUS

3741	MOTORCYCLE ELECTRICAL SYSTEMS	$4.95
3742	MOTORCYCLE CARBURETORS	$6.95
3724	MOTORCYCLE ENGINEERING	$5.00
1039	MOTORCYCLE TROUBLESHOOTING GUIDE	$5.95
0745	MOTORCYCLE REPAIR ENCYCLOPEDIA	$8.95

ADD 75¢ POSTAGE & HANDLING TO ALL ORDERS

CARBOOKS, INC. 2628 Atlantic Ave.
Brooklyn, N.Y. 11207

Telephone orders (212) 342-0225

☐ I enclose full payment of $

INDICATE BY NUMBER THE BOOKS YOU WANT

PLEASE PRINT OR TYPE NAME AND ADDRESS

NAME

ADDRESS

CITY

STATE ZIP Y-39

SATISFACTION GUARANTEED OR YOUR MONEY BACK

everything would be fine. It was, and the Suzuki ran like a jet until Gary threw it down the track while holding what should have been an unassailable lead.

Any other tuner would have been howling about rider stupidity for at least the next decade. Kanemoto reportedly had tears in his eyes and it's a pretty good bet that his stomach lining turned bright red, but if he had any words of reproach for Nixon they were delivered in private. That's the kind of situation that would bring out the worst in any of us, and it showed that Erv Kanemoto really is a very classy guy.

In addition to being classy, which is nice but won't make motorcycles win races, Erv is both imaginative and keenly analytical in the way he does his work—which may tend to explain his comparative disinterest in engines. Unlike most tuners, most of whom are horsepower-fixated, Kanemoto is able to treat the engine as just one element in a complicated go-fast equation, recognizing that a motorcycle's brakes and handling—and rider attitude—are at least as important. And unlike almost everyone, Erv is able to keep an overall perspective even as he deals meticulously with the myriad details of racing motorcycle preparation; he can immerse himself in detail without becoming its slave. It may be that his habit of keeping records of everything holds off confusion, but for whatever reason all the right things happen when Erv gets his hands on a bike. Kanemoto is really, really good, and he's only 32 years old, which gives him time to get a lot better. If that's possible.

Erv's single failing, and the one that stands between him and his dream of "something in the order of what Kel has," is that he believes too firmly in the bit of American folklore that assures us virtue will be rewarded. It probably doesn't help that Erv is also loyal, modest to the point of self-effacement, and a lot of other things Horatio Alger would have loved and motorcycling's captains of industry find either embarrassing or highly suspect. Kanemoto is dedicated and energetic, intelligent and experienced in his craft—and if he prepared a Vespa for Daytona you'd have to figure the thing a possible winner. But there is perhaps too much of the da Vinci and not enough Machiavelli in his makeup to collect the rewards his talents so clearly deserve.

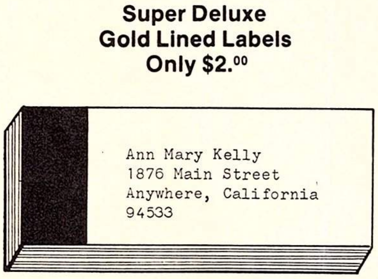
At this writing Erv is cooling his heels waiting to see if Suzuki wants to renew the 1974 per-race-subcontractor arrangement for '75. He's waiting, and hoping, and it's possible that nothing at all will be forthcoming from that quarter. And if Suzuki doesn't want Erv, will he be able to cut any reasonable kind of deal with any of the others? Motorcycle racing may in the end find that Erv Kanemoto, tuner *extraordinare*, has taken a good, long look at what he has had to give and what he's got in return, and at last just "walked away from it." ◉

PARTNERSHIPS

Reconditioned Used, Motorcycle Shops will net $50,000/year $5,000 total investment! (up to 50% financing available from home office)

AAA
CYCLE
EXCHANGES™
OF AMERICA
BOX 4023
HAMMOND IND 46324
(219) 931-6000

Super Deluxe
Gold Lined Labels
Only $2.00



500 GOLD LINED
RETURN ADDRESS LABELS

Quick and easy way to put your Name and Return address on letters, books, records, etc. Any Name, Address and Zip Code up to 4 lines beautifully printed with large Gold Strip. 500 labels **only $2.00**.

Dublin Valley Press, 11683 Betlen Drive, Dublin, Calif. 94566.

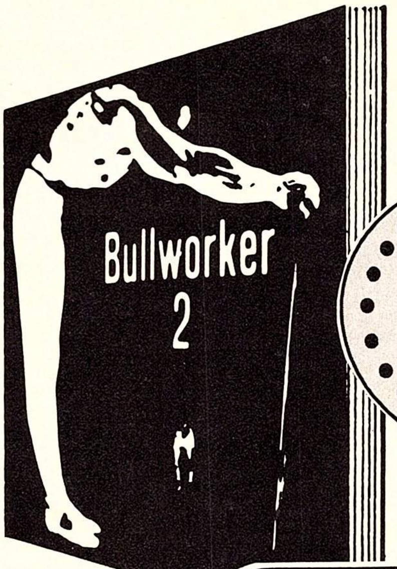
LEARN DRAFTING AT HOME

U.S. Labor Dept. says "42% more Draftsmen needed next 10 years." Send for FREE "DRAFTING CAREER KIT"

NAME AGE
ADDRESS
CITY STATE ZIP

NORTH AMERICAN SCHOOL OF DRAFTING, Dept. EA015
Accredited National Home Study Council 4500 Campus Dr., Newport, Calif. 92660

FREE
24 Page
BOOKLET!



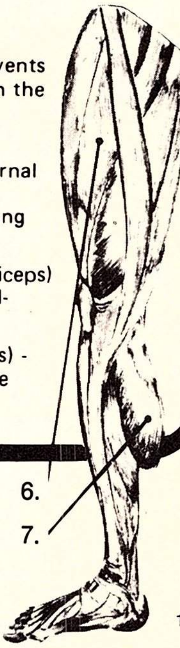
full color

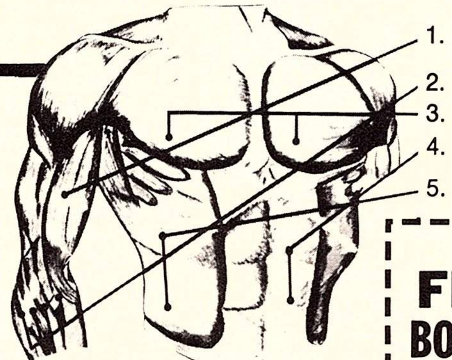
How to build a powerful body!

FREE! The booklet that shows you how to get a body just as powerful, just as healthy, just as manly as the thousands of men around the world who have discovered Bullworker. It doesn't matter if you are 16 or 60, underweight or overweight, fighting fit or out of condition. Bullworker can get you back in shape. See and measure your strength increase from the very first day. All it takes is 5 minutes a day—in the privacy of your own home. Read the full fascinating story and scientific proof of Bullworker's effectiveness in your free booklet, and details of Bullworker's 14-day Free home trial. Just mail coupon today—no cost, no obligation.

Just 7 of the eighteen muscle groups improved by Bullworker.

1. Front upper arm (Biceps) - ensures an athletic upper arm.
2. Forearms (Flexors and Extensors) - forms a sinewy forearm.
3. Chest (Pectorals) - ensures a wonderfully arched chest and deeper breathing.
4. Front stomach (Abdominals) - prevents fat accumulation on the stomach following exercising.
5. Side stomach (External Obliques) - forms a narrow waist by being exercised.
6. Front thigh (Quadriceps) - forms athletic well-shaped thighs.
7. Calf (Gastrocnemius) - normalises the shape of the calf.



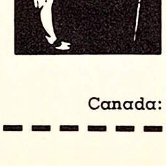


Booklet shows how Bullworker can help

- **Forge excess stomach fat into solid muscle.**
- **Transform weak arms into pillars of strength.**
- **Lift and broaden sagging shoulders.**
- **Develop a chest that breathes power.**
- **Strengthen your back, forearms, wrists, thighs and calves.**

© **BULLWORKER SERVICE**
201 Lincoln Blvd.
Middlesex, N.J. 08846

FREE BOOKLET



BULLWORKER SERVICE
Dept. BW-1663
201 Lincoln Blvd., Middlesex, New Jersey 08846

Please send me my FREE full color brochure about BULLWORKER 2 without obligation. No salesman will visit.

Name____________________Age______

Street__________________________

City___________________________

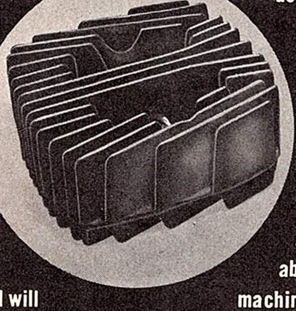
State____________________Zip______

Canada: Home delivery duty paid. Ask for FREE booklet.

WEBCO HEADS RUN STRONGER!

Have a machine the magazines say is best? You've fixed the suspension, tuned your body and psyched your buddies, but you're still not winning. Midway in the race you lose power and gradually slip to fifth or sixth. We can't promise to make everyone a winner (there is only one to a race) but a Webco high performance head will help to keep you up front. You will run noticeably stronger and cooler, too.

A Webco head not only improves horsepower, but will keep it for the full length of the race, because we've designed it to improve both thermal and volumetric efficiencies. Each Webco head is designed for maximum performance in its specific application. Precision cast from prime 356 aluminum (finest obtainable). T6 heat treated, then machined to exacting tolerances. Get a Webco head for your engine. You can see it at your Webco dealer.



116 page Webco catalog and decal . . . $1.50 ppd.

MIC

WEBCO INC. BOX 429 • VENICE, CALIF. 90291

Distrs: S.E., Cycle Gear, N.C.; Midwest, KK m/c Supply, Ohio; Rocky Mts., Pikes Peak m/c, Col.

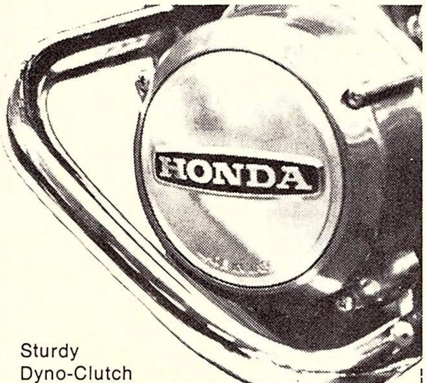
CIRCLE NO. 27 ON READER SERVICE PAGE.

...and you thought all shock absorbers were alike.

The Boge / Mulholland is different and superior, not simply a rebuildable shock. . .a range of interchangeable components also allows you to change compression and rebound characteristics within five minutes.
The possible number of adjustments is almost limitless.

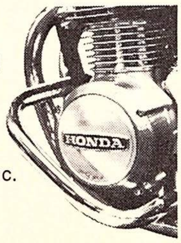
Florida Cycle Supply
P. O. Box 5245, Jacksonville, Florida 32207
(904) 733-3363
See Your Local Dealer
MEMBER MIC Regional Distributor

Protect Your HONDA 750 & KAWASAKI Z-1



Sturdy
Dyno-Clutch
Safety Bars shield vulnerable alternator and clutch castings. Add style and strength to your motorcycle. Made of heavy one-inch tubing, 14-gauge steel, and heavily chromed to resist corrosion. Bolts easily to existing mounts. Specify your motorcycle and send check or money order with order.

Special Reduced Price $18.95 complete set, postpaid



DYTONIS, Inc.
145 Surbeck Place
Haworth, NJ 07641

DHS *Continued from page 8*

Not caring to ask for help at that moment, I usually hooked the open gauntlet ends over the stainless steel coat-and-hat-rack prongs next to my chosen booth, and, lowering my arms, was free of the mittens. I couldn't wait to get my hands on a hot cup of coffee. Not that I have a real liking for that ubiquitous beverage, I just couldn't wait to get my hands on a hot cup. Of anything. I tried once to order just "a hot cup," but it got me nowhere. My cup came with coffee in it and I had to pay ten cents. Now I called out again, and again it came with coffee. The service was so good that I hadn't had the time to get out of my coat. Still standing there, warming up, and warming to the good-natured heckling.

"Keep it up, you guys with your fat cars," I countered to some further remarks. Tahiti, indeed! I prepared to lift out of the coat.

I say "lift out" because the coat is very heavy. On a damp day it weighs close to thirty pounds. Pockets empty. You do not ask someone to help you out of the coat unless you are sure they are not prone to hernia. There are no trick ways out. Short of lying down on the floor and wriggling out, the only way is to lift it off. I did so, and sat to clutch my hot cup. It felt great. It just sat there across the table leaning its shoulder against the window. I never hung it on the coat rack. Not since it tore one off the side of the booth one day.

The coat was made toward the end of World War Two—close enough to the end so that it was never shipped to Russia as American contribution to the Eastern Front. Like a lot of government purchases, no expense was spared. Nor were the horses. Fully-cut and nearly ankle length it measured more than six feet around the hem and took the best hides of two horses to make. Patterned for riding, it had a closed back vent from waist to hem.

As if the leather were not enough, and sometimes it wasn't, the designer thoughtfully had installed a lining. Made of heavy wool, the lining is best described as "thick Army blanket." No half-way measures. It was a full lining right down to the knit inner cuffs at the sleeve ends for the breezes, etc. The pockets were built of sturdy corduroy, the kind of stuff for 15-year pants. In brief, which it was not, the coat was bulletproof. And for warmth, well, I needed only a Tee-shirt and jeans on if I had the boots and the coat. Of course, I looked like something that fell off a Tiger tank. And, of course, it was not a walking coat. At first wearing in a cold-snap my ankles buckled. Every year without fail.

So we sat there, me and the coat. I looked out at the grey slush that said cold, wet, and dirt. And I said to myself, "What do you clowns know, you with your fat cars. I've got this fat coat. And I wouldn't trade it for all the Pago Pagos in the tropics."

What did they know.

—Mike Shuter

CARRUTHERS *Continued from page 78*

Throughout discussions of the team and its interworkings, Kel continued to speak of its members (Don Castro, Gene Romero, and Roberts) in very clinical and impersonal terms. Contrary to popular racetrack myth, there is no close personal bond between Carruthers and any of them. They all converge at a race from their different directions, do their business, and return whence they came. They've all been in racing for what seems like ages and have neither the time nor inclination for a lot of buddying around.

Being one step removed from the saddle, Carruthers shows signs of mellowing a bit. During his first year here, Kel was not reluctant to voice criticisms of certain social conditions he observed in his travels. More than once, Cal Rayborn allowed as how Kel should go the hell back where the hell he came from if he didn't like it. And certain other riders took not infrequent exception to Kel's sometimes overly-aggressive maneuvers in traffic on the race track. He is more reflective and less outspoken now, and during his last year of racing, much less forceful on the track.

Jan Carruthers drove up while we were standing there gabbing. She was driving Kel's token of thanks for the years of managing in a house trailer and eating on the run: a spanking new Mercedes 280 SEL. Such an extravagance would never have been considered in his racing days. When the preparation for a race is done and Pete, Bill, and Fritz drive off with the bikes packed into the huge Dodge/King's Highway van, Kel spends a few days at home before flying out to join the team at the race.

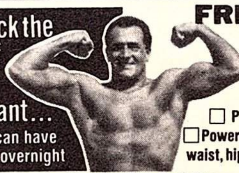
If you stand in the garages at a race, you'll notice that most of the mechanics and riders sit around their bikes and move from one task to another according to the inspiration of the moment. The pros have priorities dictated by carefully considered experience. Carruthers is now going to offer the benefits of his experience and the services of his shop to the private Yamaha racers who need either or both.

A huge part of Yamaha's racing success has been its almost total commitment to building racing motorcycles in quantities large enough to make them generally available to anyone. It has been the only factory financially willing and technically capable of doing so on a continuing basis. The odds alone dictated that one of the Yamaha tuners at a race would have his machine honed sharp enough to cut it. But the instances of success were very spotty, before Kel. Private entries won more frequently than did any of Yamaha International's official teams. Kel Carruthers has the unique combination of abilities to sense and create the differences between a racing motorcycle bolted together with all its pieces in the right places, and one prepared to race. Kel understands that's the difference that matters. ◉

Langlitz Leathers

The finest custom made leathers for the pleasure or sport rider. Factory direct only. Catalog available.

2443 S.E. DIVISION, PORTLAND, ORE. 97202



Just Pick the Kind of Body You Want...
and you can have it almost overnight

FREE BOOK

Here's the kind of body I want:
☐ Broad chest, ☐ Big shoulders. ☐ Powerful arms, grip. ☐ Powerful legs. ☐ Slimmer waist, hips. ☐ More weight, solid.

Send your name and address for Free Book to:
CHARLES ATLAS, Dept. 8226 115 East 23rd St., New York, N.Y. 10010

SAVE!
BUY FACTORY-DIRECT.....
from world's leading manufacturer

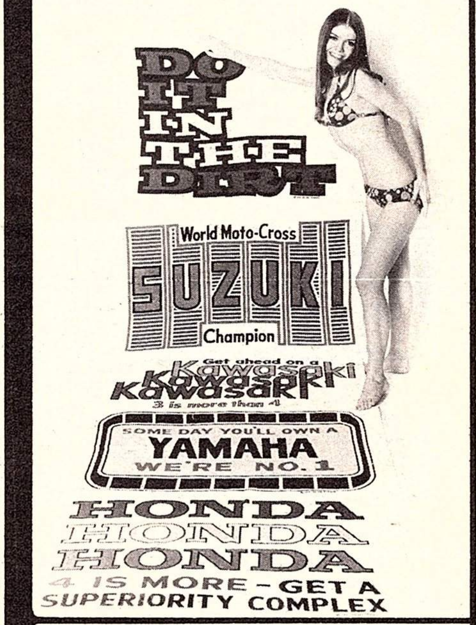
Assembled – ready to present
Wholesale low, low prices
Artistic color combinations
Rush "PDQ" service
Distinctive designs
Satisfaction guaranteed

All Sport and Event Figures Available

Write for free catalog
Trophyland USA Inc.
DEPT. C, 7001 W. 20TH AVE., P.O. BOX 4606, HIALEAH, FLA. 33014

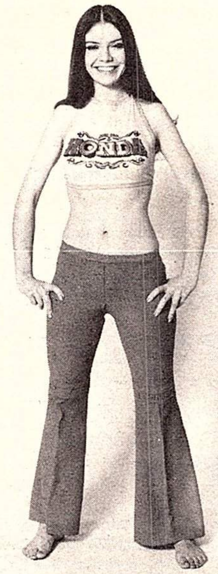
NEW FROM SHIRT KING

"CYCLE BEACH TOWELS"


DO IT IN THE DIRT
World Moto-Cross SUZUKI Champion
Get ahead on a Kawasaki Kawasaki Kawasaki
3 is more than 1
SOME DAY YOU'LL OWN A YAMAHA WE'RE NO. 1
HONDA HONDA HONDA
4 IS MORE – GET A SUPERIORITY COMPLEX

All in four brilliant colors. Each towel is 9-oz. terry cotton, color fast and machine washable. Great fun at the beach, pool, races or . . . in the shower.

"CHEST PROTECTORS"



All cotton, color fast, machine washable. One size fits all. Ten super designs: Honda, Yamaha, Suzuki, Kawasaki, Harley, Triumph, BSA, Bultaco, Do It In The Dirt, Bike California.

Shirt King
1046 S. BLAINE ST., LOS ANGELES, CA 90015

BEACH TOWELS
$7.00 + $1.00 postage

___ Honda $______
___ Yamaha $______
___ Suzuki $______
___ Kawasaki $______
___ Do It . . . $______

TOTAL ______

CHEST PROTECTORS
$6.00 + .50 postage
No COD's or Bill Me's

☐ Honda
☐ Yamaha
☐ Suzuki
☐ Kawasaki
☐ Harley Dav.
☐ Harley Wings
☐ Harley No. 1
☐ Triumph
☐ BSA
☐ Bultaco
☐ I'm cared for
☐ Bike Calif.
☐ Montesa
☐ Tennis Bum
☐ Do It In The Dirt
☐ Tennis Anyone?
☐ Bike It
☐ Just for the fun of it

Specify color for each: ☐ Red; ☐ White; ☐ Blue; ☐ Yellow

Please print:
TOTAL ENCLOSED ______
NAME ______
C12
ADDRESS ______
CITY ______ STATE & ZIP ______

(Calif. residents add 6% sales tax)
Dealer Inquiries Invited
Allow 3 weeks delivery
(color substitutions may be necessary)

Cycle
MARKET PLACE

NON-DISPLAY CLASSIFIED: COMMERCIAL RATE: For firms or individuals offering commercial products or services. $1.60 per word (including name and address). Minimum order $24.00. Payment must accompany copy except when ads are placed by accredited advertising agencies. Frequency discount: 5% for 6 months; 10% for 12 months paid in advance. **READER RATE:** For individuals with a personal item to buy or sell $1.00 per word (including name and address). **NO MINIMUM!** Payment must accompany copy.

DISPLAY CLASSIFIED: One inch by one column, $85.00; Two inches by one column, $170.00; Three inches by one column, $255.00. Column width 2-1/4". Advertiser to supply film positives. Please write or phone for frequency rates.

GENERAL INFORMATION: First word in all non-display classified ads set in bold caps at no extra charge. ALL copy subject to publisher's approval. All advertisers using Post Office Boxes in their addresses **MUST** supply publisher with permanent address and telephone number before ad can be run. Closing Date: 3rd of the 2nd month preceding cover date (for example, March issue closes January 3rd). Send order and remittance to Classified Advertising, **CYCLE,** One Park Avenue, New York 10016, Attention: Hal Cymes.

FOR SALE

NORTON

NORTON, TRIUMPH, BMW & M V AGUSTA—Europe's best motorcycles—at specially low prices from Europe's best dealer—Gus Kuhn's. Write for full information now! GUS KUHN MOTORS LTD., 275-277 Clapham Road, London SW9 9BJ, England. Tel: 01-733 1002.

350 and 500 Manx Norton Originals. Delivered Daytona 1975. £800.00 Sterling each. 3, Wardle Drive, Cleveleys, Blackpool, Lancashire, England. Telephone Cleveleys 76142.

MISCELLANEOUS

SEND $1.00 for catalog. Parts and accessories. Suzuki, Triumph, BMW, BSA. Spa City Cycle Center, 71-4 Church Street, Saratoga Springs, New York 12866. Call (518) 584-4778. SPECIAL: $2.99 for BMW, Honda oil filters.

BUSINESS OPPORTUNITIES

FREE BOOK "2042 unique proven enterprises." Work home! Hayling-B, Carlsbad, CA 92008.

FREE BOOK "999 Successful, Little-Known Businesses." Work Home! Plymouth-YFD Box 1056, Weston, CT 06880.

CYCLE INSURANCE

CALIFORNIA RESIDENTS, lowest rates. "Motorcycle Insurance", Box 4215, Inglewood, Calif. 90309.

CYCLE SERVICES

CUSTOM CHROME PLATING, Specialists in cycle and antique restoration. Steel or Aluminum. We guarantee both our work and delivery dates as quoted. Call or write Jackson Plating Company, 444 East South Street, Jackson MI 49203. Phone: 1-517-782-6200.

INSTRUCTION

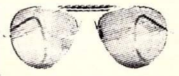
SMALL ENGINE & CHASSIS
REPAIR TRAINING
9 month course
Learn Snowmobile, Outboard, Lawn Mower, Cycle, Including Wankel
Write: DAN RICHTER
Wisconsin Indianhead Technical Institute
New Richmond, Wisconsin 54017

MOTORCYCLE MECHANIC. Train at home in spare time. Make good money in motorcycle shop or start own business. Motorcycle tools, test instruments included. FREE "Career Kit!", Dept. EACC4, North American School/Motorcycle Repair, 4500 Campus Drive, Newport Beach, CA 92663.

APPAREL

FINEST QUALITY LEATHER motorcycle jackets, shirts, pants, boots, belts, gloves, vests, helmets, raingear, saddlebags, tools, accessories. World's lowest prices. Immediate delivery. Catalog 25 cents. Herm's Leathertogs, Dept. C., 701 Northampton St., Easton, Pa. 18042.

BUG COLLECTORS



STOP plucking bugs from your eyeballs!! These cycle riders' sunglasses give full coverage, and come with cable earpieces so they can't fall off. Adjustable triple-braced metal frames, impact-resistant optical glass lens in choice of yellow, green, or grey. Carrying case included. Fast Delivery. If not satisfied, return within 30 days for full refund. Send $5.95 for 1, $9.95 for 2, or $13.95 for 3 pairs. Postpaid. For Air-Mail add .50 per pair. Foreign orders add .80 per pair.

HIDALGO SUPPLY CO., Dept. C
11505 Chimney Rock Rd., Houston, Texas 77035

NEW! 750 FOUR BELT BUCKLE

LEATHERS
PARR
OF ARIZONA

Dept. 40 Box 294
Phoenix, AZ. 85001
(3903 N. 16 St.)

Marque cast in jewelers metal — high fire glazed — on heavy chrome steel plate. Buckle only $5.00 ■ Buckle & 1¾" black leather belt $10.00 ■ Plus 75c shipping. ■ Send 50c coins for COLOR PHOTO CATALOG of Road Leathers, Studded Belts, Wristbands. ■ BankAmericard phone orders 602-266-4861

T-SHIRTS
FULL COLOR
Super Shirts
FREE
sample patch
& brochure
SUPER SHIRTS, dept. C
PO BOX 66147
L A Ca 90066

T SHIRTS—DECAL CYCLE SHIRTS—Different colors, sizes. Send 50 cents for catalog. United, 742 E. Chelten Ave., Phila., PA 19144.

EMBLEMS, Top Quality, embroidered, guaranteed color-fast. Direct to you from leading factory. Order 25 to 25 million. Firm quote from your own sketch or Design-Guide supplied free. A-B Emblem Corp., P.O. Box 9695, Weaverville, N.C. 28787.

CYCLE PUBLICATIONS

1975 SURVIVAL/MILITARY-Books/Manuals. Catalog 35 cents. Survival Freeze Dried Foods List 25 cents. HILLCREST, (BFC-40), McDonald, Ohio 44437.

ACCESSORIES

TWIST-ASSIST ™
THROTTLE HELPER

Applies adjustable torque to twistgrip.
Mounts easily inside most 7/8" handlebars.
Money back guarantee.
Pat. Pend.

$7.95 PPD.
Info on request.
Dealers inquire.
Give make & model cycle.
CMB MFG. CO. DEPT. A
BOX 57, TEMPE, AZ. 85281

Camping and Touring Gear for Bike Riders.

Tents, Sleeping Bags,
Stoves, Cooksets,
Tools, Apparel, Books,
Bike Accessories

PLUS... ROAD SYSTEMS
BIG NEW CATALOG – 25¢
GO GREAT OUTDOORS
ENTERPRISES
420G South Fairview, Goleta, CA 93017

QUARTZ-HALOGEN
Conversion Kit for -/5 BMWs!

Quick conversion from old-style lighting to the brilliant new units on latest machines. You can install on your own bike in 5 minutes. Priced well below factory list. Kit includes new reflector, gasket, and lens. Bulb available separately for $18.96. Order from your dealer. • Quartz-Halogen Conversion Kit for —/5 BMWs . . . $54.42

CMI Accessories Norwood, NJ 07648

FLORIDA TOURING

VACATION! SAVE! Enjoy yourself in sunny Florida on a NEW GENTRY MOTORS HONDA: Check our low prices on HONDA 750's . . . HONDA 450's . . . 360's . . . 350 Four . . . MT250 . . . All inquiries answered with latest prices.

GENTRY HONDA MOTORS
2296 So. U.S. No. 1 • Rockledge, Florida 32955
Phone: 305-636-4988
80 miles south of Daytona Beach on U.S. No. 1, since 1963.
Hours 9:00—7:00 Tuesday thru Saturday

YES

OUR AD IS SMALLER
OUR TUITITION IS SMALLER TOO!!
HOBBY COURSE - 16 Hrs.
GRADUATE MECHANIC COURSE - 240 Hrs.
YOUR BEST DEAL

SOUTHWEST TRAINING CENTER
2623 Freewood Drive
DALLAS, TEXAS 75220
Phone—214/352-4897

EMPLOYMENT INFORMATION

OVERSEAS JOBS—Now hiring. 103 countries, all occupations, high pay, free transportation, tax benefits. Latest computerized reports—$2.00. TRANSWORLD, International Airport, Box 90802-CY, Los Angeles, California 90009.

AUSTRALIA—NEW ZEALAND WANTS YOU!!! 50,000 Jobs! Paid transportation! Latest information and forms. $1.00. AUSTCO, Box 3623-CY, Long Beach, Calif. 90803.

OVERSEAS Employment . . . Australia, Europe, Asia, South America! All occupations! $700-$4,000 monthly! Employment International, Box 29217-WN, Indianapolis, Indiana 46229.

EQUIPMENT AND PARTS

HONDA MOTORCYCLES AND PARTS ARE CHEAPER IN CENTER, TEXAS. When ordering parts please give us Model, Year, Frame Number and Engine Number. HAYDEN HONDA, P.O. Box 829, Center, Texas 75935. Phone (713) 598-2330 and 598-2322.

IF YOU NEED
PARTS BSA
Mail Order Service Worldwide.
111 Sunrise Highway
Amityville, N.Y. 11701
Call 516-842-5771
CYCLE CITY Inc.

WARDS RIVERSIDE
MOJAVE (By Benelli)
PARILLA
CAPRIOLO
MV AUGUSTA 250
BIANCHI
CAPRI SCOOTERS

PARTS
World's largest inventory for Italian motorcycles
Rebuilt Engine Exchanges
COSMOPOLITAN MOTORS, INC.
Hatboro, Pa. 19040
(215) 672-9100

HONDA PARTS
ONE DAY MAIL WORLDWIDE
State: Model No., year, frame, & engine nos.
COMPLETELY NEW 80 PAGE PARTS-ACCESSORY CATALOG
Send 60¢ postage & handling ($1.50 air)
HONDA of MINEOLA
336 Jericho Tpke., Mineola, N.Y. 11501 • (516) 248-5558

BSA Parts
Kawasaki Parts
SHIPPED SAME DAY
NORFOLK MOTORCYCLES
Box 81, Rte 1A
Norfolk, MA 02056
Call (617) 384-7555

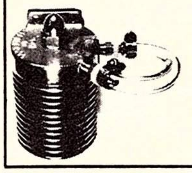
eastern cycle salvage, inc
RECYCLED CYCLES
USED PARTS
All makes and models. Save up to 50% of retail. Many early & obsolete British parts in stock. Prompt 1 day service.
Write Dept. C, 87 Park St., Beverly, Mass. 01915. (617) 922-3707

KAWASAKI – TRIUMPH
PARTS & SERVICE – MAIL ORDER C.O.D.
Machine Work & Speed Work All Makes
Cranks & Rods Rebuilt
Porting, Boring, Complete Engine Overhauls

BE A WINNER!
With our Drag/Race Conversions
For Kawasaki 750

Best E.T. – 10:3 Best Top Speed – 137
On our own Kawasaki 750
Send 25¢ for information and decal
arlington MOTOR SPORTS
1098 Mass. Ave., Arlington, Mass. 02174 • (617) 648-1300

CYCLE SALVAGE INC. New, Used, Reconditioned Motorcycle Parts. 157 Water Street, New Haven, Conn. 06511. 1-203-624-4315.



COOL FILTER
For Hot, Dirty Engines!
Cools oil, cleans oil, helps your bike go! Easy to install on any dry sump engine, BSA, Triumph, Harley, Norton, Yamaha 750. Only 3" dia x 4½" high — brightly polished Aluminum alloy with cooling fins — looks sharp and really works. Money back guarantee. Only $31.95 PP inc. hose, fittings, clamps etc. Send check now to **H & C Engineering, P.O. Box 7831, Independence, Ohio 44131**

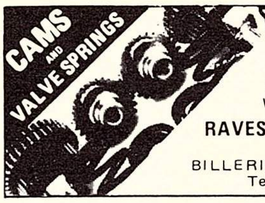
NEW TOLL-FREE CYCLE PARTS SERVICE
- West Coast Savings!
- Call from anywhere in the U.S. except California. Orders filled within 24 hours.
- Call Tues. thru Fri. 9 A.M. – 6 P.M., Sat. to 5, Pacific Time.
- BankAmericard & Master Charge accepted.

CALL TOLL-FREE
800
423-5662

ALLYN'S Honda/Kawasaki
958 North Maclay, San Fernando, California

SUZUKI PARTS: Large inventory—Champion Motorcycles, 840 Main, St. Charles, Illinois 60174.

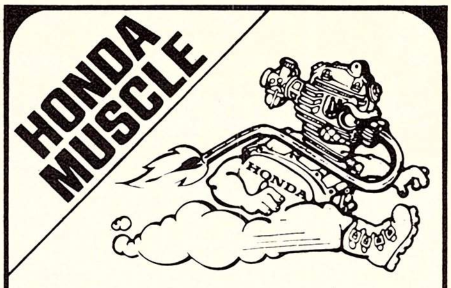
TRIUMPH PARTS
NATIONWIDE
Mail Order Service
TRIUMPH OF WELLESLEY
184 Worcester St.
Wellesley Hills Mass 02181
617 235 9729



HORSEPOWER TO WIN!
HONDA, SPORTSTER, etc.
Write for literature
RAVESI RACING CAMS
WYMAN ROAD
BILLERICA, MASS. 01821
Tel: (617) 663-3733

KAWASAKI PARTS
ONE DAY MAIL ORDER SERVICE
BORING, PORTING, COMPLETE SERVICE
MEGA CYCLES
fitchburg mass
21 WILLOW ST.
FITCHBURG, MA. 01420
(617) 345-0181
CHRONOGRAPH HEUER

SAN DIEGO MOTORCYCLE SALVAGE. USED parts for all makes and models. 2676 Newton Ave., San Diego, CA (714) 235-6261.



BIG BORE KITS • TUNED PIPES
STROKED CRANKS for SINGLES
ENGINE BUILDING • CAMS

Send for
Complete Catalog $1.50 Cash
Model Information 50¢

Powroll Inc.
P.O. Box 1206 A,
Bend, Oregon 97701
(503) 382-6395

HONDA
PARTS & ACCESSORY WAREHOUSE
WE'RE NUMBER ONE FOR
ACTION 4'S • DUNLOP
KONI • BELL • NGK
YOSHIMURA • WIXOM
VETTER—AND MORE
CARR'S HONDA
6800 N. CLARK CHICAGO IL 60626
312-274-7777
$1 REFUND ON PHONE ORDERS OVER $15
INCLUDE: MODEL, YEAR, SERIAL NO.

BMW and NSU Motorcycle complete parts and service WEST VALLEY CYCLE SALES, P.O. Box 2068, WINNETKA, CALIFORNIA 91306. Mailorders handled promptly.

CLASSIFIED ADVERTISING ORDER FORM

Please refer to heading on first page of this section for complete data concerning terms, frequency discounts, closing dates, etc.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35

_______ Words @ $1.60 (Commercial Rate)
@ $1.00 (Reader Rate) $ _______

Insert _______ time(s) Total Enclosed $ _______

NAME _______

ADDRESS _______

CITY _______ STATE _______ ZIP _______

Signature _______

WORD COUNT: Include name and address. Name of city (Des Moines) or of state (New York) counts as one word each. Zip Code numbers not counted. (Publisher reserves right to omit Zip Code if space does not permit.) Count each abbreviation, initial, single figure or group of figures or letters as a word. Symbols such as 35mm, COD, PO, AC, etc., count as one word. Hyphenated words count as two words.

CY-275

CARLS HONDA
24 HOUR MAIL UPS SERVICE
on all HONDA PARTS
NO RIP–OFF
State Honda Model No.,
Year, Frame No., Eng. No.
1845 LINDEN BLVD., BKLYN, 11207
CALL: 212-257-0230

HUSKY • MAICO • KAWASAKI
PARTS & ACCESSORIES
• SHIPPED WITHIN 24 HOURS •
C.O.D. • MASTER CHARGE • BANKAMERICARD
WEST CYCLES
24610 Pine Street
Newhall, Cal. 91321
805-255-1335
ALWAYS INCLUDE MAKE, MODEL & ENGINE NO.

DICK'S ROYAL ENFIELD WEST
PHONE: (213) 286-2550
Mail Order Parts, Shop Manuals, etc.
Largest Stock in U.S.A. – Tell us your needs today!
304 Agostino Rd., San Gabriel, Ca. 91776

EUROPEAN TOURING

BUYING A COMMANDO under the personal export scheme We are the only OFFICIALLY FACTORY APPOINTED SERVICE CENTRE and sell only Norton Prompt delivery. Save your dollars by dealing with the SPECIALISTS with all services SPARES ACCESSORIES INSURANCE FREIGHTING the experts in handling your personal requirements. Send for detailed literature showing how to get here from the airport etc., and any other information you may require.

Taylor Matterson, Bedford Hill, London S.W. 12 · Tel.: 01-673-0981

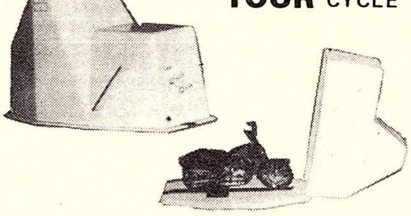
SEE EUROPE INEXPENSIVELY—on a new cycle from Elite Motors, Europe's Biggest Cycle Shop. Big stocks, big discounts (to U.K. visitors) and quick service. Don't waste time—write now to Europe's No. 1: ELITE MOTORS LTD., 844-965 Garratt Lane, Tooting, London SW17 OLP, England. Tel. 01-672-1200.

MUSICAL INSTRUMENTS

30% + DISCOUNTS. Name Brand Musical Instruments. Free Catalog. Continental Music, Dept. M, P.O. Box 3001, Garden City, New York 11530.

PLANS AND KITS

NOW PERMANENT YEAR-ROUND PROTECTION FOR YOUR CYCLE



BUILD THE NEW AND ATTRACTIVE "CYCLE-COOP"

- Completely Enclosed
- Prevents Rust-Producing Moisture Build-Up
- Provides Additional Theft Deterrents
- Can Be Heated to Prevent Battery Freeze-Up

For Easy-to-Follow Plans, Send $5.00 to:

21st CENTURY ENTERPRISES
103 MEREWOOD DRIVE • VERSAILES, KY.

PLEASE – Cash, Check or Money Order Only

PLANS, Tube Bender, Press, Break, Information, P.O.B. 56, Campo, California 92006.

MIKUNI CARBS
REED INDUCTION KITS
Send 50¢ for catalog
G.E.M. Products
P.O.BOX 845, CAROL STREAM ILL.60187

GOVERNMENT SURPLUS

"U.S. GOVERNMENT SURPLUS DIRECTORY." How, Where to buy 100,000 items (including Jeeps) ... low as 2 cents on dollar! Most complete information available ... $2.00. SURPLUS DISPOSAL, Box 6586-WN, Washington, D.C. 20009.

RECORDS, HI-FI AND ELECTRONICS

SPECIAL interest records available, produced by the editors of the world's leading special interest magazines. Send for free catalog. Record Catalog CL, Ziff-Davis Publishing Co., One Park Avenue, New York, N.Y. 10016.

TIRES

SNOW CHAINS for Motorcycles. Trail - $13.95. Competition - $15.95. Tiger Tire Chains, 7800 Perimeter Road South, Seattle, Washington 98108.

MISCELLANEOUS

IDENTIFICATION Cards, send stamped self-addressed envelope for samples. NIPCOF, 727 North Main, Las Vegas, Nevada 89101.

SLEEP LEARNING. Hypnotic Method, 92% effective. Details free. ASR Foundation, Box 23429 EG, Fort Lauderdale, Florida 33307.

DELICIOUS Pickled Eggs With Beets Receipt. European family hand me down. Send self addressed, stamped envelope and $1.00 to "Receipt C," P.O. Box 524, New Kensington, Pa 15068.

ABOUT YOUR SUBSCRIPTION

Your subscription to CYCLE is maintained on one of the world's most modern, efficient computer systems, and if you're like 99% of our subscribers, you'll never have any reason to complain about your subscription service.

We have found that when complaints do arise, the majority of them occur because people have written their names or addresses differently at different times. For example, if your subscription were listed under "William Jones, Cedar Lane, Middletown, Arizona," and you were to renew it as "Bill Jones, Cedar Lane, Middletown, Arizona," our computer would think that two separate subscriptions were involved, and it would start sending you two copies of CYCLE each month. Other examples of combinations of names that would confuse the computer would include: John Henry Smith and Henry Smith; and Mrs. Joseph Jones and Mary Jones. Minor differences in addresses can also lead to difficulties. For example, to the computer, 100 Second St. is not the same as 100 2nd St.

So please, when you write us about your subscription, be sure to enclose the mailing label from the cover of the magazine—or else copy your name and address exactly as they appear on the mailing label. This will greatly reduce any chance of error, and we will be able to service your request quickly.

PIPELINE *Continued from page 10*

ing a Japanese factory with 750s.

There remains the very remote possibility that MV will consider producing 25 identical four-cylinder GP 500s. (Imagine a Read Replica as a status symbol!) But they won't. For one reason, 750 two-strokes have power and performance potentials as yet untapped, while the 500 four-stroke four seems just about at its development peak. Equally important is the prohibitive cost of such a venture.

BMW: German racing policy comfortably equates with the popular image of their motorcycles, if you believe the image is traditional and conservative. BMW prefers not to hear arguments in favor of the 25-engine rule. They'd far rather see the limit set at 2,000 or 20,000 or 200,000 or some astronomical figure. To say that BMW has reservations about Formula 750 is an understatement indeed.

Ducati: By a stroke of good fortune, or through brilliant timing, Ducati's hot 750 V-twin arrived in time to dominate Imola 1972. But far from going hell-bent for glory, Ducati raced in fits and starts. The works 750s never crossed the Italian border, and racing activities were phased-down in the face of 350cc Yamahas and other Japanese raceware. The subsequent 860 prototype received a most thorough proving in various 24-hour races. Then Ducati stole away from Barcelona, Le Mans and other "marathon" race venues when Kawasaki Z1s started taking long-distance racing apart. Meanwhile, lessons learned from racing appeared as mechanical improvements on production bikes—the most rideable rider's bikes on the market. Now Ducati cannot go back to racing with the big-twin, since it will be badly beaten. They won't build and race exotica because it makes no sense to them.

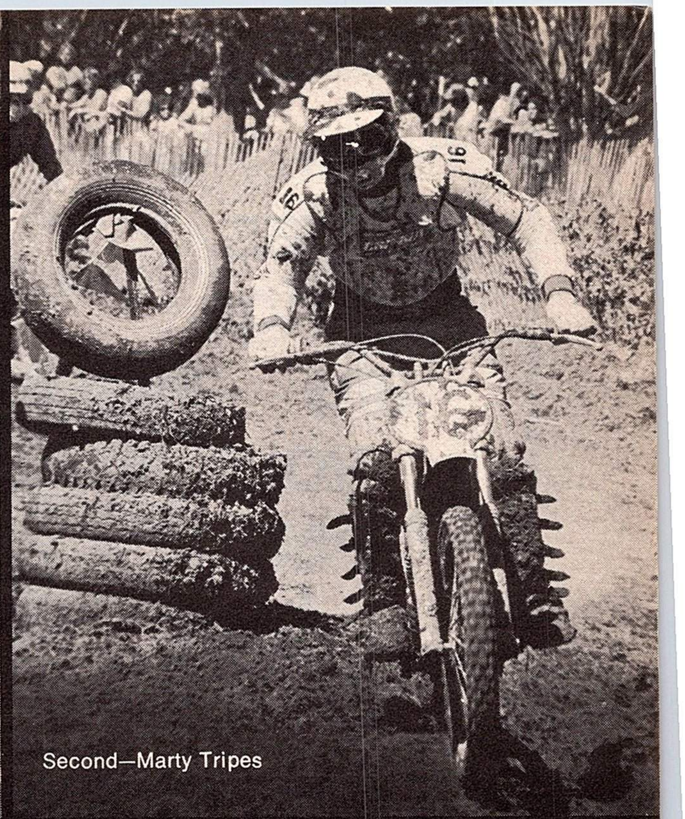
Benelli/Moto-Guzzi: Of the brands in the de Tomaso empire, the Benelli multi looks the most racy, throwing up visions of 750 up-date of Honda's fabulous 297cc six. But nothing to encourage such highly-exotic thoughts comes from Benelli sources, where the extroverts of Modena have turned reluctant talkers. This block in the flow of oration could foreshadow an announcement of world-shattering significance, like a Benelli to dismantle the Yamahas. More probably, it means nothing of the sort.

To sum up, Norton favors the 25-engine ruling because it enables them to race a pre-production device, not because they've delusions of exotic engine splendor. The European industry in general has inescapable priorities demanding every attention, and racing doesn't enter the list. The vital needs are selling bikes, making enough bikes to sell at the right time, and staying solvent.

History is not about to repeat itself. The days when European factories devoted hefty measures of their resources to designing, constructing and racing super-specials are gone. And gone for good, if realism has any meaning.

—Jim Greening

First—Gary Jones


Second—Marty Tripes

Third—Jim Ellis

Gold Palladium sweep.

When Gary Jones finished first in the 250cc National Motocross 1974 Championship, it marked the third straight year he rode off with AMA's No. 1 plate. And when teammates Marty Tripes and Jim Ellis finished second and third, one bike marque had emerged as the first to ever sweep the series' first three places. That winning marque was Can-Am*. And sparking its 1-2-3 finish were Champion *Gold Palladium* spark plugs. The premium performance spark plugs for competition and street.

SPECIAL LIMITED OFFER
Get Champion's wide steerhide belt with distinctive metal buckle. Details available at motorcycle dealers and distributors.

CHAMPION®

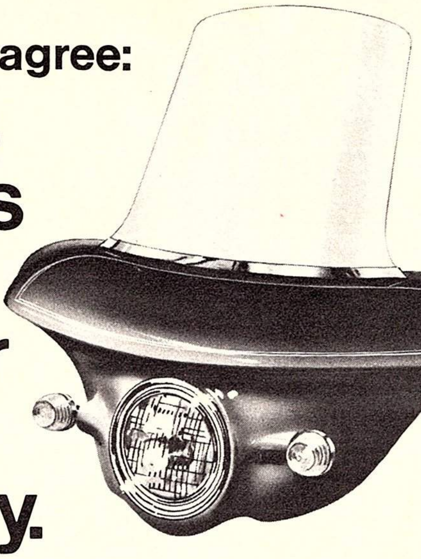
We've got your plug.

*Trademark of Bombardier Ltd.

Toledo, OH 43661

The critics agree:

Bates Fairings are your best buy.



"In addition to the windshield height, you also notice windshield thickness right off—it's 3/16-inch Plexiglas, sturdier than all others tested . . ."

That's just part of what *Rider* magazine has to say about Bates Fairings. More: "The Bates . . . offers good frontal protection even for the taller rider . . . Installation is probably the simplest of all the fairings . . . The Bates strongest points are the tall, slightly tinted windscreen and generally effective design."

Motorcyclist magazine summed it up with, "The best of the fork-mounted fairings."

All this plus excellent styling and flawless high-gloss finish. And no gaps show around the Bates chrome headlight ring or turn signal openings. While all Bates Fairings have the same overall appearance, each one is custom engineered to a specific cycle for mounting and fitting.

Your choice of Black, White or Custom Color Fairing with Clear or Tinted shield.

Make and model of cycle__________
Fairing—$89.50 ☐ Black ☐ White ☐ Custom Color $15.00 ..... $______
Give color of cycle__________ ______
Striping—$10.00 ☐ Black ☐ White ☐ Gold .... ______
Shield Color ☐ Green ☐ Clear. Height of Rider______ ______
Plus shipping and insurance (10% or $10.00, whichever is less) .... ______
Total Amount Due ☐ Check ☐ Money Order enclosed for .... $______

Send Order to Accessory House, Box 1770-CF, Long Beach, Calif. 90801
and include your complete name, address and telephone number.
☐ $2.00—Rush me all the full-color Bates Accessory and Leathers Catalogs.

DUNSTALL GOODIES
for
NORTON—HONDA
KAWASAKI—YAMAHA
—in stock—

PROMPT SHIPMENTS
Write for price list and all-inclusive catalogue, **free,** including hundreds of other popular CHOPPER, TOURING and REPAIR PARTS.
Send $1.00 only if you wish AIRMAIL
CHARIOT CYCLE LTD.
Box 3534, Station "B"
Winnipeg, Manitoba, Canada R2W 3R4

RETAIL DISPLAY PLAN

All magazine retailers in the United States and Canada interested in earning an allowance for the display and sale of a minimum of five publications of the Ziff-Davis Publishing Company, to be paid quarterly on the basis of ten per cent of the cover price of each sold copy, assuming that all terms and conditions of the contract are satisfied, are entitled to do so and are invited to write for full details and copies of the contract to Single Copy Sales Director, Ziff-Davis Publishing Company, One Park Ave., New York, N.Y. 10016.

Advertisers Index

READER SERVICE NUMBER		PAGE
	AAA Cycle Exchanges	104
	Action Fours	87
24	American Honda	100/101
37	American Honda	3
	American M/C Institute	90
	American M/C Mech. School	95/97
	Atlas, Charles	107
39	Akront (North American Imports)	94
43	BMW	5
40	Berliner	54
	Bassani Mfg.	98
	Bates	112
	Bates	63
46	Bombardier Ltd. (Can-Am)	70/71
	Bullworker Service	105
	Carbooks	104
	Cepek, Dick	95
	Champion Spark Plugs	111
	Chariot Cycle	112
48	Circle Industries	96
	Creative Ent.	97
47	Daido Corp.	87
	Dick's Cycle West	95
	Dublin Valley Press	104
	Dytonis	106
	Event Insurance	98
	Florida Cycle Supply	106
26	Harley-Davidson	28/29
28	Hodaka	99
	Honda of Mineola	82
39	Hooker Headers	96
22	Indian M/C	C4
25	Kawasaki	16/17
	Kawasaki	59/62
30	K.K. Motorcycle Supply	102
	Kuhn, Motors Ltd.	102
	Langlitz Leathers	107
36	Minolta Corp.	2
	Motor Products	94
	National Systems School of M/C	7
	National Systems School of Drafting	104
	National Systems School of Aeronautics	102
21	Norton-Triumph	C2
29	Norton-Triumph	103
	Randall, Douglas	87
	Rojen-B	97
	R.J. Reynolds (Winston)	11
	R.J. Reynolds (Camel)	C3
	Shirt King	107
41	Sleep-Pack	92
	Spirit of America	95
44	Tombstone Cycle	91
	Trophyland USA	107
	U.S. Suzuki	31/38
	U.S. Navy	12/15
42	VDO Instruments	93
34	Vetter Fairings	9
27	Webco	106
32	Wheels of Man	27
45	Wixon Bros.	91
23	Yamaha	88/89
31	Yamaha	18
33	Yokohama Rubber	46

PRINTED IN U.S.A.

Free Information Service

Here's how you can get additional information at no charge, concerning products and services advertised in this issue, and items mentioned in the New Products Editorial Section.

1. Clip one of the coupons (two are provided in the event a second person reading this copy wishes to use the service). Print or type your name and address where indicated. Be sure to include Zip Code.

2. Please answer *all* questions and circle the number on the coupon which corresponds to the number at the bottom of the advertisement, or New Products Editorial Listing, for which you want additional information. (Key numbers for advertised products also appear in advertiser's index on the opposite page.)

3. Paste the coupon on a government post card or place it in an envelope and mail to:
CYCLE, P.O. Box 2904, Clinton, Iowa 52732

4. Your request for information will be forwarded to the appropriate companies. Please allow 4 to 6 weeks for them to fill your requests.

EXPIRES MARCH 1975 CC2/75 123

Name ____________________

Address ____________________

City ____________ State ____________ Zip Code ________

PLEASE ANSWER ALL QUESTIONS BELOW AND TYPE
OR PRINT AS CLEARLY AS POSSIBLE

1. How many motorcycles do you now own?
A ☐ 1 B ☐ 2 C ☐ 3 or more D ☐ None

FOR MOTORCYCLES CURRENTLY OWNED, PLEASE COMPLETE THE FOLLOWING:

Answer for most recent purchase if more than one is owned.

2. What make?
A ☐ BSA E ☐ H-D I ☐ Kawasaki M ☐ Suzuki
B ☐ BMW F ☐ Hodaka J ☐ Norton N ☐ Triumph
C ☐ Bultaco G ☐ Honda K ☐ Ossa O ☐ Yamaha
D ☐ Can-Am H ☐ Indian L ☐ Rokon P ☐ Other

3. What engine size?
A ☐ 40–99cc D ☐ 300–399cc G ☐ 600–699cc
B ☐ 100–199cc E ☐ 400–499cc H ☐ 700–799cc
C ☐ 200–299cc F ☐ 500–599cc I ☐ 800cc & up

4. Excluding motorcycle(s) currently owned, had you previously owned a motorcycle? 1 ☐ Yes 2 ☐ No

If YES:

5. What make? (Most recently owned, if more than one.)
A ☐ BSA E ☐ H-D I ☐ Kawasaki M ☐ Suzuki
B ☐ BMW F ☐ Hodaka J ☐ Norton N ☐ Triumph
C ☐ Bultaco G ☐ Honda K ☐ Ossa O ☐ Yamaha
D ☐ Can-Am H ☐ Indian L ☐ Rokon P ☐ Other

6. What engine size? (Most recently owned, if more than one.)
A ☐ 40–99cc D ☐ 300–399cc G ☐ 600–699cc
B ☐ 100–199cc E ☐ 400–499cc H ☐ 700–799cc
C ☐ 200–299cc F ☐ 500–599cc I ☐ 800cc & up

7. Do you plan to buy a new motorcycle within the next 12 months?
A ☐ Yes B ☐ No

8. What make are you most seriously considering? (Check ONE.)
A ☐ BSA E ☐ H-D I ☐ Kawasaki M ☐ Suzuki
B ☐ BMW F ☐ Hodaka J ☐ Norton N ☐ Triumph
C ☐ Bultaco G ☐ Honda K ☐ Ossa O ☐ Yamaha
D ☐ Can-Am H ☐ Indian L ☐ Rokon P ☐ Other

9. What engine size?
A ☐ 40–99cc D ☐ 300–399cc G ☐ 600–699cc
B ☐ 100–199cc E ☐ 400–499cc H ☐ 700–799cc
C ☐ 200–299cc F ☐ 500–599cc I ☐ 800cc & up

10. How much do you plan to spend on motorcycle *accessories* (e.g. protective clothing, goggles, special instruments, tools, mirrors, etc.) within the next 12 months?
A ☐ Less than $30 C ☐ $50–$59 E ☐ $100–$149 G ☐ $200–$299
B ☐ $30–$49 D ☐ $60–$99 F ☐ $150–$199 H ☐ $300 or more

11. What is your age?
A ☐ Under 18 C ☐ 21–24 E ☐ 35–44 G ☐ 55–64
B ☐ 18–20 D ☐ 25–34 F ☐ 45–54 H ☐ 65 or over

For information on items circle numbers below.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40 41 42 43 44 45
46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70 71 72 73 74 75
76 77 78 79 80 81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

EXPIRES MARCH 1975 CC2/75 1234

Name ____________________

Address ____________________

City ____________ State ____________ Zip Code ________

PLEASE ANSWER ALL QUESTIONS BELOW AND TYPE
OR PRINT AS CLEARLY AS POSSIBLE

1. How many motorcycles do you now own?
A ☐ 1 B ☐ 2 C ☐ 3 or more D ☐ None

FOR MOTORCYCLES CURRENTLY OWNED, PLEASE COMPLETE THE FOLLOWING:

Answer for most recent purchase if more than one is owned.

2. What make?
A ☐ BSA E ☐ H-D I ☐ Kawasaki M ☐ Suzuki
B ☐ BMW F ☐ Hodaka J ☐ Norton N ☐ Triumph
C ☐ Bultaco G ☐ Honda K ☐ Ossa O ☐ Yamaha
D ☐ Can-Am H ☐ Indian L ☐ Rokon P ☐ Other

3. What engine size?
A ☐ 40–99cc D ☐ 300–399cc G ☐ 600–699cc
B ☐ 100–199cc E ☐ 400–499cc H ☐ 700–799cc
C ☐ 200–299cc F ☐ 500–599cc I ☐ 800cc & up

4. Excluding motorcycle(s) currently owned, had you previously owned a motorcycle? 1 ☐ Yes 2 ☐ No

If YES:

5. What make? (Most recently owned, if more than one.)
A ☐ BSA E ☐ H-D I ☐ Kawasaki M ☐ Suzuki
B ☐ BMW F ☐ Hodaka J ☐ Norton N ☐ Triumph
C ☐ Bultaco G ☐ Honda K ☐ Ossa O ☐ Yamaha
D ☐ Can-Am H ☐ Indian L ☐ Rokon P ☐ Other

6. What engine size? (Most recently owned, if more than one.)
A ☐ 40–99cc D ☐ 300–399cc G ☐ 600–699cc
B ☐ 100–199cc E ☐ 400–499cc H ☐ 700–799cc
C ☐ 200–299cc F ☐ 500–599cc I ☐ 800cc & up

7. Do you plan to buy a new motorcycle within the next 12 months?
A ☐ Yes B ☐ No

8. What make are you most seriously considering? (Check ONE.)
A ☐ BSA E ☐ H-D I ☐ Kawasaki M ☐ Suzuki
B ☐ BMW F ☐ Hodaka J ☐ Norton N ☐ Triumph
C ☐ Bultaco G ☐ Honda K ☐ Ossa O ☐ Yamaha
D ☐ Can-Am H ☐ Indian L ☐ Rokon P ☐ Other

9. What engine size?
A ☐ 40–99cc D ☐ 300–399cc G ☐ 600–699cc
B ☐ 100–199cc E ☐ 400–499cc H ☐ 700–799cc
C ☐ 200–299cc F ☐ 500–599cc I ☐ 800cc & up

10. How much do you plan to spend on motorcycle *accessories* (e.g. protective clothing, goggles, special instruments, tools, mirrors, etc.) within the next 12 months?
A ☐ Less than $30 C ☐ $50–$59 E ☐ $100–$149 G ☐ $200–$299
B ☐ $30–$49 D ☐ $60–$99 F ☐ $150–$199 H ☐ $300 or more

11. What is your age?
A ☐ Under 18 C ☐ 21–24 E ☐ 35–44 G ☐ 55–64
B ☐ 18–20 D ☐ 25–34 F ☐ 45–54 H ☐ 65 or over

For information on items circle numbers below.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40 41 42 43 44 45
46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70 71 72 73 74 75
76 77 78 79 80 81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

LETTERS *Continued from page 6*

This is a fact well known to any experienced rider and was even corroborated by a letter in the same issue putting the auto-driver-at-fault figure from one study at 81%—a damn significant figure.

But—gee whiz—you then said these good ole folks (responsible, by the way, for the deaths of more than 2000 motorcyclists each year) really aren't doing it ''on purpose.'' In so many words you said it's all not their fault, and they'll keep on snuffing us ''until such time (they are) made more aware of us. That should come to pass . . . later.''

Aren't doing it on purpose?! Said as a blanket statement, I challenge it as untrue in a significant (albeit small) percentage of cases. But I won't debate that aspect—just to say that taking your view is like trying to minimize an air catastrophe because no malice was involved.

They'll become aware of us later?! When? How? At present the government seems only interested in making both cycle and rider crashworthy. Air bags, crash bars, body armor, etc. are the kind of garbage semi-human technocrats are sinking their teeth into, not the education of drivers. Why aren't you fighting this?

The situation screams for solution—a solution plain enough for those of us who deal with these inept waterheads in their cars on the street every day; it's irresponsible when people in your position can't even grasp the gravity of our situation, much less provide a voice that will help pull us out of a hole the Feds seem intent on burying us in.

Instead of letting the bureaucrats continue this *carte blanche* pillage of our remaining freedoms, you should be raising holy hell no one in the safety establishment is holding the car driver responsible for his wholesale carelessness.

Whether or not you have detected it, there is a burgeoning groundswell of opposition to all this government-mandated crap. And the average motorcyclist, the one who pays all the bills, would like some concrete support.

Gary Cape
Bismarck, N.D.

Safety and Training

I would like to express my thanks to Gordon Jennings for the brief but thorough article on filter systems. I had replaced the stock filters on my CB-450 with something less effective of my own design merely a day before reading the article. The stock filters were reinstalled quickly and I could sense the engine smiling again.

Also, the Editorial by Cook Neilson was a variety of enjoyable, informative, and (unfortunately) alarming in some respects. The need for safety and training programs for riders hit very close to home when one of my father's friends was killed before his very eyes this week (failure to control his bike) and another biker was eliminated from this world in a *parking lot* (the old ''blind'' automobile driver trick).

With decreasing fuel supplies, this country will eventually have to switch to alternative forms of transportation like many European and Asian countries, and the motorcycle is cheap, independent, practical transportation. Riding is more dangerous than it has to be at present, especially with the number of cars around, but it is up to today's motorcyclists to help bring about a change in ''the system.''

Randy Gleason
Houston, Texas

Deflation

I would like to correct *Cycle* regarding the price of the Dunstall GT fairing for the Norton Commando. Your December 1974 issue gave the price as $228.50. That's in error—it should have been $118.50.

Donna Smith
Tillman Sport Center

Address all correspondence to: [illegible] *Neilson, ''Letters,'' CYCLE Magazine, 780-A Lakefield Road, Westlake Village, California, 91361.*

Introducing
the rebuildable helmet
Arai.

Here now, for the first time, the sensational ARAI RD-6 ''Rebuildable'' Safety Helmet—The helmet whose insides ''come apart'' piece by piece. Now—you can wash the inside of your helmet and have a clean head and if part of the upholstering is worn or damaged it simply can be replaced without discarding the rest of the helmet. Another feature...the RD-6 can be ''tailor fit'' to your head the way you're most comfortable, by simply adjusting the headband and adding or removing insert cushion pads.

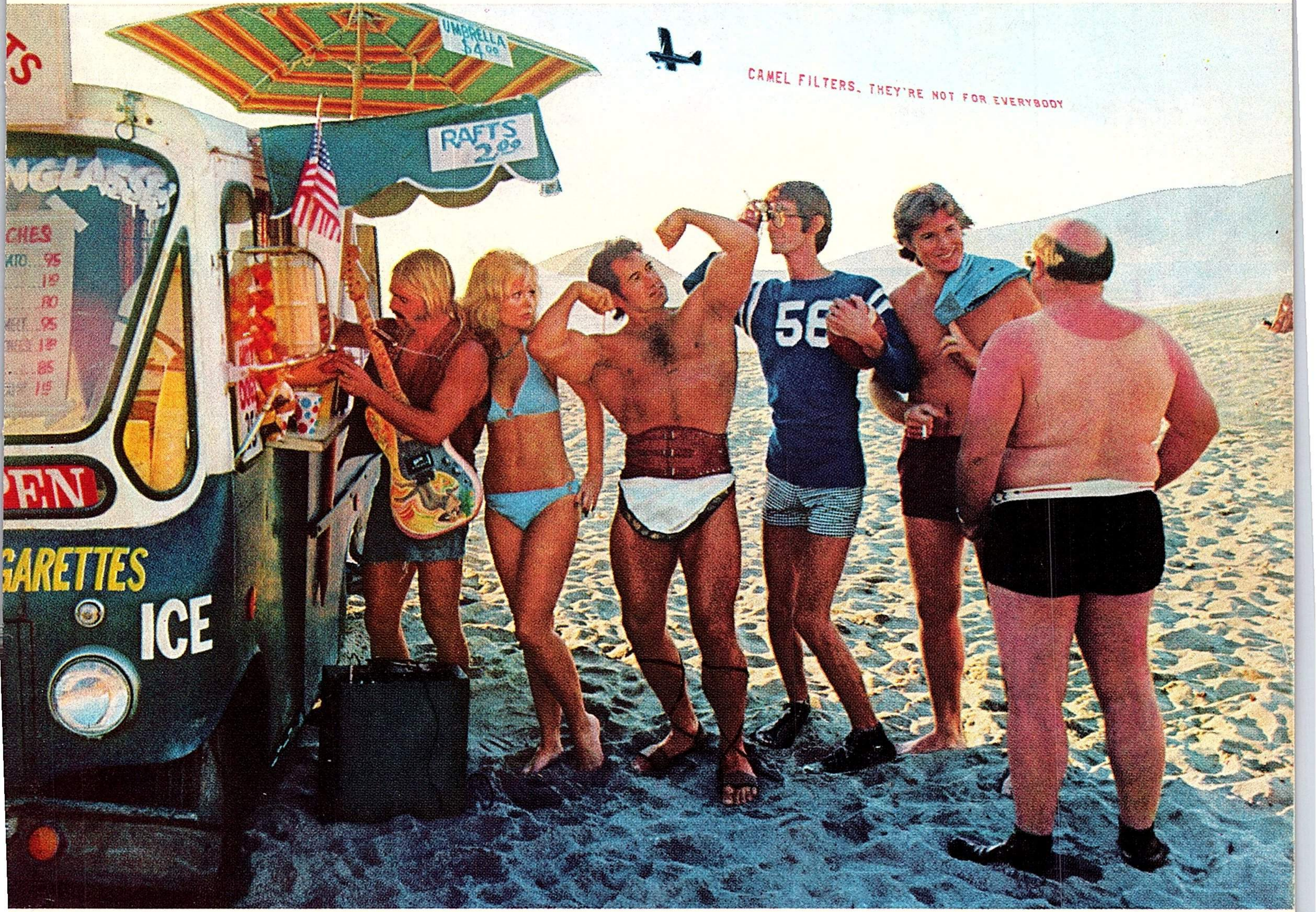
You wash your socks, clean your leathers, why not wash the sweat and dirt from your helmet? Make your next helmet an ARAI RD-6—The Rebuildable (and Washable) Helmet.

The ARAI RD-6 is Snell-70 approved and, of course, meets Z90.1 standards. Available at better dealers everywhere.

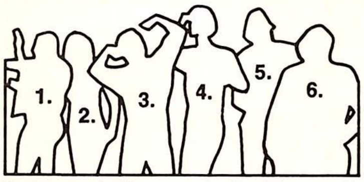
ADI
Accessory Distributors, Inc.
175 Fair St. Palisades Park, N. J. 07650

MIC
MOTORCYCLE INDUSTRY COUNCIL

Can you spot the Camel Filters smoker?

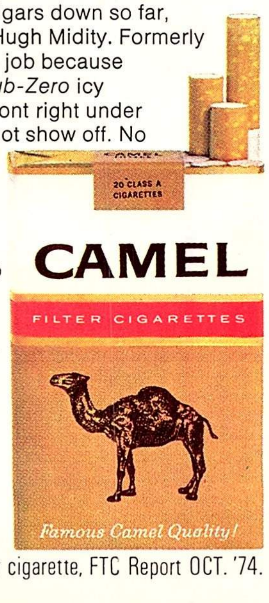


©1974 R. J. Reynolds Tobacco Co.



Almost everyone at the beach today has a gimmick. Find the one who doesn't. **1.** Nope. He's Harmon Nee. Gimmick: His singing voice, that sounds like two chalk slates mating. Even his cigarette sings —every time he inhales, its multiple filter whistles "Dixie." **2.** Not Laura Enertia, beach queen. Gimmick: More movable parts than a Swiss watch. Has a waiting list for crew when she surfs. Smokes *Ms.* feminist cigarettes—whose taste just msses, too. **3.** Not "Bull" Gene Biceps. Gimmick: His waterproof makeup. Doesn't always hold arms that way—this morning he mistook spray starch for his underarm deodorant. Smokes his fat cigars down so far, the ashes drop behind his teeth. **4.** No. He's Hugh Midity. Formerly Channel 58's Whistling Weatherman. Lost his job because the weather didn't agree with him. Smokes *Sub-Zero* icy menthol cigarettes. Feels like he has a cold front right under his nose. **5.** Right. He came here to cool off, not show off. No gimmicks in his cigarette, either. Smokes CAMEL FILTERS. Rich, flavorful smoking. Without coming on strong. **6.** Unidentified frying object.

Camel Filters.
They're not for everybody
(but they could be for you).



Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health.

19 mg. "tar", 1.3 mg. nicotine av. per cigarette, FTC Report OCT. '74.

8 reasons why your son's first cycle should be an Indian.

More and more motorcycle enthusiasts are recommending Indian cycles to their sons. Because Indians are designed in America with the features younger, less experienced riders want. Like they're . . .

1. **Easier to handle**—Indians are the lightest cycles in their classes. Indian's ME-100, for example, is almost 30 pounds lighter than comparable Japanese models. That's a lot less to lug around or load.
2. **Easier to mount and steady**—Indians are built up to 2 inches lower than comparable models. So they're easier to get onto, and hold steady when stopped.
3. **Easier to control**—Indians are designed to handle better. One reason is their lower center of gravity. Another, their lighter weight. And Indian tires are up to 15% wider than comparable big 4 models for greater traction.
4. **Surer shifting and braking.** Indians are equipped with adjustable foot pegs. Because Indian knows all kids' feet are not the same. The right distance between pegs and levers can be a big factor in both comfort, handling, and safety.
5. **More performance when your son needs it**—Indian powerplants deliver up to 25% more horsepower than some comparable Japanese models. That's power when it counts to get your son out of tough situations.
6. **Safer braking**—Only Indian (of the big five cycles) has a full floating brake on all its models. So with Indian there's no chance of rear-brake lock-up and hopping even in the roughest terrain.
7. **Easier to service**—Rear tire and tube can be changed in half the time of ordinary cycles. The throttle cable can be changed in seconds with no tools. No other cycle its size offers both these big bike features.
8. **Longer life**—Only Indian of the big 5 offers an interchangeable swing arm that lets you increase wheel size as your son gets bigger. *He'll use his first Indian a whole lot longer!*

All in all, Indian's extra features give your son what he wants and needs in his first cycle . . . And only Indian of the big 5 brands offers a color choice on all models. So help your son decide on Indian. He'll thank you for a long time to come.

Indian

FIRST Name In AMERICAN Motorcycling

Indian Motorcycle Company
Beverly Hills, Calif. 90211 213/278-9470

CIRCLE NO. 22 ON READER SERVICE PAGE.